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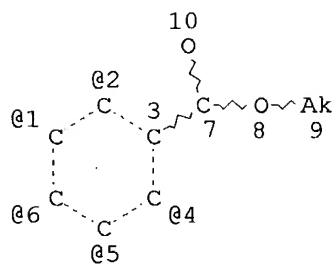
FILE COVERS 1907 - 29 Mar 2004 VOL 140 ISS 14  
FILE LAST UPDATED: 28 Mar 2004 (20040328/ED)

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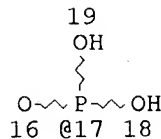
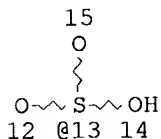
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L41 STR

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



G1 @11



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GRAPH ATTRIBUTES:  
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NUMBER OF NODES IS 19

STEREO ATTRIBUTES: NONE  
L43 3029 SEA FILE=REGISTRY SSS FUL L41  
L47 2744 SEA FILE=HCAPLUS ABB=ON L43  
L48 29 SEA FILE=HCAPLUS ABB=ON L47 AND POLYANILIN?

=> D L48 ALL 1-29 HITSTR

*3,029 structures from  
this query*

*29 CA references with  
ability*

L48 ANSWER 1 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2003:579278 HCAPLUS  
 DN 139:365643  
 ED Entered STN: 29 Jul 2003  
 TI Molecular dynamics in plastic conducting compounds of **polyaniline**  
 AU Djurado, D.; Bee, M.; Gonzalez, M.; Mondelli, C.; Dufour, B.; Rannou, P.;  
 Pron, A.; Travers, J. P.  
 CS Laboratoire de Spectrometrie Physique, Universite J. Fourier, Grenoble I,  
 St Martin d'Heres, 38402, Fr.  
 SO Chemical Physics (2003), 292(2-3), 355-361  
 CODEN: CMPHC2; ISSN: 0301-0104  
 PB Elsevier Science B.V.  
 DT Journal  
 LA English  
 CC 37-5 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 76  
 AB **Polyaniline** has been protonated (doped) with phthalosulfonic  
 acid and sulfo-succinic acid diesters. Freestanding films exhibiting high  
 elec. conductivity and good plasticity were obtained. The dynamics of protons  
 attached to the alkyl chains of these "plasdopants" has been studied by  
 using quasielastic neutron scattering techniques. A glass transition was  
 thus detected at a temperature corresponding to that measured by DSC. This  
 dynamical transition occurred in the temperature range, in which both a  
 thermochromism and an insulator-metal elec. transitions were also observed  
 The local diffusive motions of these protons are described in terms of  
 diffusion within spheres whose temperature dependent radii are distributed in  
 size along the alkyl chains.  
 ST **polyaniline** phthalosulfonic sulfosuccinic acid diester dopant  
 conductor mol dynamics  
 IT Polymer chains  
 (dynamics; mol. dynamics in plastic conducting compds. of  
**polyaniline**)  
 IT Conducting polymers  
 Dopants  
 Elasticity  
 Electric conductivity  
 Elongation at break  
 Glass transition  
 Microstructure  
 Molecular dynamics  
 Simulation and Modeling, physicochemical  
 (mol. dynamics in plastic conducting compds. of **polyaniline**)  
 IT **Polyanilines**  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
 formulation); PRP (Properties); PYP (Physical process); PROC (Process);  
 USES (Uses)  
 (phthalosulfonic acid and sulfosuccinic acid diesters-doped; mol.  
 dynamics in plastic conducting compds. of **polyaniline**)  
 IT 10041-19-7, Bis(2-ethylhexyl) sulfosuccinate **264192-28-1**  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (dopant; mol. dynamics in plastic conducting compds. of  
**polyaniline**)  
 IT 25233-30-1, **Polyaniline**  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
 formulation); PRP (Properties); PYP (Physical process); PROC (Process);  
 USES (Uses)  
 (phthalosulfonic acid and sulfosuccinic acid diesters-doped; mol.  
 dynamics in plastic conducting compds. of **polyaniline**)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

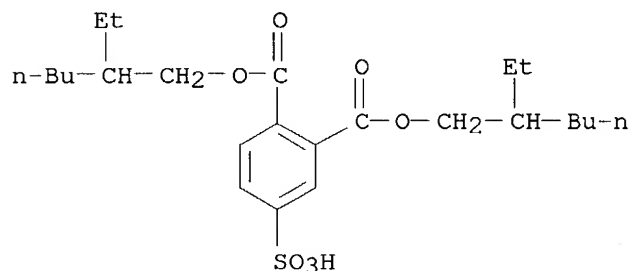
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IT 264192-28-1

RL: MOA (Modifier or additive use); USES (Uses)  
(dopant; mol. dynamics in plastic conducting compds. of  
**polyaniline**)

RN 264192-28-1 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
(CA INDEX NAME)



L48 ANSWER 2 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2003:413476 HCAPLUS  
 DN 139:134044  
 ED Entered STN: 30 May 2003  
 TI Doping-induced stretchability of metallic poly(aniline)  
 AU Dufour, B.; Rannou, P.; Djurado, D.; Bee, M.; Pron, A.  
 CS Laboratoire de Physique des Metaux Synthetiques, UMR 5819-SPrAM  
 (CEA-CNRS-Univ. J. FOURIER), DRFMC, CEA-Grenoble, Grenoble, 38 054/9, Fr.  
 SO Synthetic Metals (2003), 135-136, 323-324  
 CODEN: SYMEDZ; ISSN: 0379-6779  
 PB Elsevier Science B.V.  
 DT Journal  
 LA English  
 CC 36-5 (Physical Properties of Synthetic High Polymers)  
 Section cross-reference(s): 76  
 AB **Polyaniline**/dopant/solvent systems were studied to obtain  
 conducting **polyaniline** (PANI) showing improved metallic conductivity,  
 mech. flexibility, and durability as compared to (+/-)-camphor-10-sulfonic  
 acid (CSA) protonated PANI films processed from m-cresol (MC) solns. The  
 protonating agents, as counterion sources and plasticizers, i.e.,  
 plastdopants, studied include diesters of 4-phthalosulfonic acids (DEPSA)  
 and diesters of sulfosuccinic acid (DESSA), specifically, di(2-ethylhexyl)  
 ester of 4-phthalosulfonic acid (DEHEPSA), di-n-dodecyl ester of  
 4-phthalosulfonic acid (DDOEPSA), di(2-butoxyethyl) ester of  
 4-phthalosulfonic acid (DB2EPSA), di(2-ethylhexyl) ester of sulfosuccinic  
 acid (DEHESSA), di-n-dodecyl ester of sulfosuccinic acid (DDOESSA),  
 di(2-butoxyethyl) ester of sulfosuccinic acid (DB2ESSA), and  
 di[2-(2-butoxyethoxy)ethyl] ester of sulfosuccinic acid (DB3ESSA).  
 Preliminary carrier transport measurements of room temperature stretched PANI  
 films protonated with sulfosuccinic acid diesters show a significant  
 increase of conductivity at room temperature, by a factor of 1.3 and 2.7 for  
 77% stretched PANI-DEHESSA(0.5) and 150% stretched PANI-DB3ESSA(0.5).  
 ST **polyaniline** metallic cond stretchability plastdopant sulfonate  
 ester; phthalosulfonic acid ester protonation counterion  
**polyaniline** flexibility durability; sulfosuccinic acid ester  
 plastdopant stretching **polyaniline** metallic cond  
 IT Conducting polymers  
 Counterions  
 Flexibility  
 Plasticizers  
 Proton transfer  
 (metallic conductivity and flexibility of **polyaniline** induced by  
 diesters of phthalosulfonic acid and sulfosuccinic acid as counterion  
 dopant/plasticizers)  
 IT **Polyanilines**  
 RL: PRP (Properties)  
 (metallic conductivity and flexibility of **polyaniline** induced by  
 diesters of phthalosulfonic acid and sulfosuccinic acid as counterion  
 dopant/plasticizers)  
 IT Electric conductivity  
 (temperature dependent, metallic; metallic conductivity and flexibility of  
**polyaniline** induced by diesters of phthalosulfonic acid and  
 sulfosuccinic acid as counterion dopant/plasticizers)  
 IT Electric current carriers  
 (transport, anisotropic; metallic conductivity and flexibility of  
**polyaniline** induced by diesters of phthalosulfonic acid and  
 sulfosuccinic acid as counterion dopant/plasticizers)

IT 159467-97-7, 4-Phthalosulfonic acid di(n-dodecyl) ester  
 264192-28-1, 4-Phthalosulfonic acid di(2-ethylhexyl) ester  
 384330-08-9, 4-Phthalosulfonic acid di(2-butoxyethyl) ester  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (counterion source and plasticizer; metallic conductivity and flexibility of  
**polyaniline** induced by diesters of phthalosulfonic acid and  
 sulfosuccinic acid as counterion dopant/plasticizers)

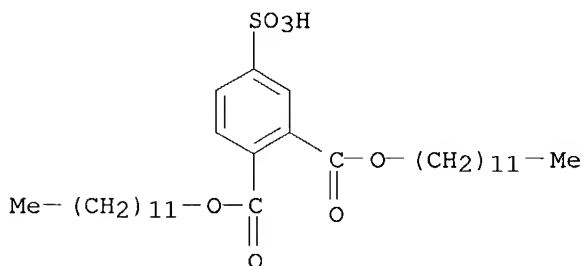
IT 3700-71-8, Didodecyl sulfosuccinate 10041-19-7, Bis(2-ethylhexyl)  
 sulfosuccinate 503475-18-1, Di(2-butoxyethyl) sulfosuccinate  
 503475-19-2, Di(2-(2-butoxyethoxy)ethyl) sulfosuccinate  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (metallic conductivity and flexibility of **polyaniline** induced by  
 diesters of phthalosulfonic acid and sulfosuccinic acid as counterion  
 dopant/plasticizers)

IT 25233-30-1, **Polyaniline**  
 RL: PRP (Properties)  
 (metallic conductivity and flexibility of **polyaniline** induced by  
 diesters of phthalosulfonic acid and sulfosuccinic acid as counterion  
 dopant/plasticizers)

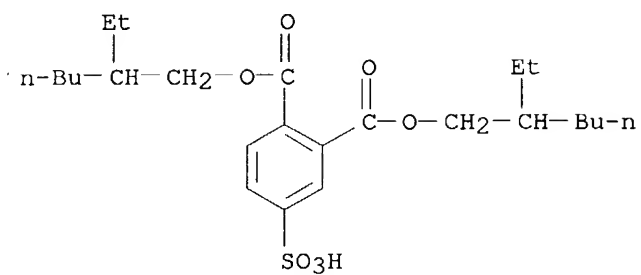
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Cao, Y; Synth Met 1992, V48, P91 HCAPLUS  
 (2) Dufour, B; Chem Mater 2001, V13, P4032 HCAPLUS  
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IT 159467-97-7, 4-Phthalosulfonic acid di(n-dodecyl) ester  
 264192-28-1, 4-Phthalosulfonic acid di(2-ethylhexyl) ester  
 384330-08-9, 4-Phthalosulfonic acid di(2-butoxyethyl) ester  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (counterion source and plasticizer; metallic conductivity and flexibility of  
**polyaniline** induced by diesters of phthalosulfonic acid and  
 sulfosuccinic acid as counterion dopant/plasticizers)

RN 159467-97-7 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-didodecyl ester (9CI) (CA  
 INDEX NAME)

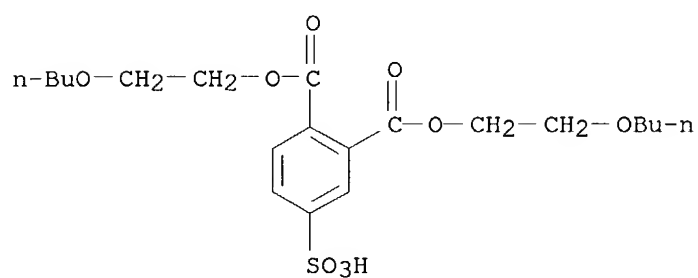


RN 264192-28-1 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
 (CA INDEX NAME)



RN 384330-08-9 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-butoxyethyl) ester (9CI)  
(CA INDEX NAME)



L48 ANSWER 3 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:413446 HCAPLUS

DN 139:134041

ED Entered STN: 30 May 2003

TI Lattice stiffening and electronic localization in conducting compounds of **polyaniline**

AU Djurado, D.; Bee, M.; Dufour, B.; Rannou, P.; Pron, A.; Travers, J. P.

CS Universite J. Fourier - Grenoble I, Laboratoire de Spectrometrie Physique (UMR UJF/CNRS 5588), B.P.87, St Martin d'Heres, 38402, Fr.

SO Synthetic Metals (2003), 135-136, 259-260

CODEN: SYMEDZ; ISSN: 0379-6779

PB Elsevier Science B.V.

DT Journal

LA English

CC 36-5 (Physical Properties of Synthetic High Polymers)

Section cross-reference(s): 76

AB The mol. dynamics of flexible counterions (plastdopants) in metallic films of **polyaniline** (PANI) was studied using incoherent quasielastic neutron scattering. The plastdopants studied are 4-phthalosulfonic acid di(2-ethylhexyl) and di(n-pentyl) esters and the di(2-ethylhexyl) ester of sulfosuccinic acid. The change of direction of the slope of d.c. conductivity curves of the films always occurs at temps. corresponding to the glass transition of the counterion sublattice. The times involved in changes of protons lying on alkyl chains of plastdopants are typically 10-11-10-12 s. In the framework of models of electronic transport in metallic **polyaniline**, counter-ion dynamics has to be taken into consideration to fully understand the unusual zero-frequency metallic state in **polyaniline**.

ST **polyaniline** metallic cond phthalosulfonate sulfosuccinate ester plastdopant; lattice stiffening flexible counterion plasticizer **polyaniline** mol dynamics; cond **polyaniline** electronic transport counterion dynamics metallic state

IT Polymer chains  
(flexible, of plastdopant; role of plastdopant on lattice stiffening and electronic localization in metallic **polyaniline**)

IT Elongation at break  
Glass transition temperature  
(of plastdopant; role of plastdopant on lattice stiffening and electronic localization in metallic **polyaniline**)

IT Metal-insulator transition  
(of **polyaniline**-plastdopant vs. temperature; role of plastdopant on lattice stiffening and electronic localization in metallic **polyaniline**)

IT Conducting polymers  
Counterions  
Electric conductivity  
Molecular dynamics  
(role of plastdopant on lattice stiffening and electronic localization in metallic **polyaniline**)

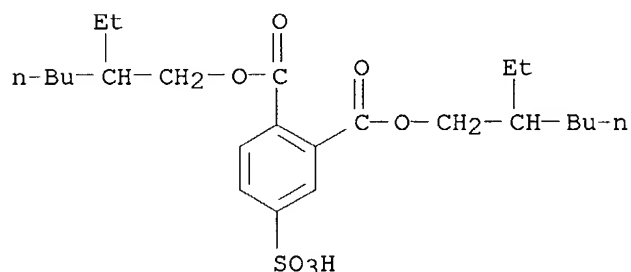
IT **Polyanilines**  
RL: PRP (Properties)  
(role of plastdopant on lattice stiffening and electronic localization in metallic **polyaniline**)

IT 10041-19-7, Bis(2-ethylhexyl) sulfosuccinate **264192-28-1**  
**384330-05-6**

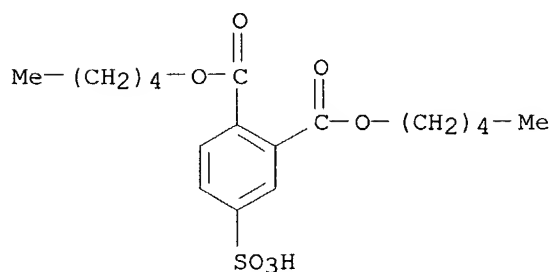
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(counterion source and plasticizer; role of plastdopant on lattice stiffening and electronic localization in metallic **polyaniline**)



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 IT 25233-30-1, **Polyaniline**  
 RL: PRP (Properties)  
 (role of plastdopant on lattice stiffening and electronic localization  
 in metallic **polyaniline**)  
 RE.CNT 6 THERE ARE 6 CITED REFERENCES.AVAILABLE FOR THIS RECORD  
 RE  
 (1) Anon; <http://www.ill.fr/>  
 (2) Djurado, D; Phys Rev B 2002, V65, P184202  
 (3) Dufour, B; Chem Mater 2001, V13, P4032 HCAPLUS  
 (4) Martens, H; Phys Rev B 2001, V63, P073203  
 (5) Olinga, T; Macromolecules 2000, V33, P2107 HCAPLUS  
 (6) Prigodin, V; Synth Met 2002, V125, P43 HCAPLUS  
 IT **264192-28-1 384330-05-6**  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (counterion source and plasticizer; role of plastdopant on lattice  
 stiffening and electronic localization in metallic **polyaniline**  
 )  
 RN 264192-28-1 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
 (CA INDEX NAME)



RN 384330-05-6 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-dipentyl ester (9CI) (CA  
 INDEX NAME)



L48 ANSWER 4 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:413358 HCAPLUS

DN 139:150177

ED Entered STN: 30 May 2003

TI The role of chain and dopant engineering in the preparation of processible conducting polymers with desired properties

AU Dufour, B.; Rannou, P.; Djurado, D.; Zagorska, M.; Kulszewicz-Bajer, I.; Pron, A.

CS Laboratoire de Physique des Metaux Synthetiques. UMR 5819-SPRAM (CEA-CNRS-Univ. J. FOURIER), DRFMC., CEA-Grenoble, Grenoble, 38 054/9, Fr.

SO Synthetic Metals (2003), 135-136, 63-68

CODEN: SYMEDZ; ISSN: 0379-6779

PB Elsevier Science B.V.

DT Journal

LA English

CC 36-5 (Physical Properties of Synthetic High Polymers)

Section cross-reference(s): 73, 76

AB Spectroscopic, structural and processing characteristics are described of **polyaniline** (PANI) containing protonating agents, namely diesters of 4-phthalosulfonic acid (DEPSA) and diesters of sulfosuccinic acid (DESSA). PANI containing DEPSA or DESSA is considered as a comb-shaped macromol. system in which anions are regarded as side groups attached to the main chain via ionic bonds. This type of supramol. architecture promotes self-organization into layered, or in some cases, lamellar structures. Plasticizing ester groups, in the anions, lower the glass transition temperature, Tg, which in all cases is below room temperature This low Tg

induces several features in PANI, i.e., the conducting polymer can be stretched at room temperature up to three times its original length, PANI exhibits low temperature thermochromism which is manifested by an abrupt transformation of the UV-vis-NIR spectrum characteristic of delocalized charge carriers into a spectrum typical of localized charge carriers. An interesting correlation was found between the temperature of the onset of this low temperature thermochromism, the temperature of the metal to insulator transition

determined from the  $\sigma = f(T)$  relation and the temperature of freezing of the counterion mol. motion derived from the anal. of the temperature dependence of elastic neutron scattering intensity. The coincidence of these three temps. underlines a key role of the counterion motion in the transport properties of low Tg, plasticized PANI.

ST **polyaniline** protonating phthalosulfonate sulfosuccinate ester induced stretching; conducting polymer lower glass transition temp

**polyaniline** ester protonation; plasticizing ester

**polyaniline** low temp thermochromism; metal insulator transition

**polyaniline** sulfosuccinate phthalosulfonate ester

IT Conducting polymers

Electric conductivity

Electric conductivity transition

Electric current carriers

Glass transition temperature

Plasticizers

Thermochromism (

UV and visible spectra

(role of phthalosulfonate and sulfosuccinate esters in stretching and Tg and thermochromism and carrier localization in **polyaniline**)

IT **Polyanilines**

RL: PRP (Properties)

(role of phthalosulfonate and sulfosuccinate esters in stretching and Tg and thermochromism and carrier localization in **polyaniline**)

IT Force constant  
(stretching force constant; role of phthalosulfonate and sulfosuccinate esters in stretching and Tg and thermochromism and carrier localization in **polyaniline**)

IT 3700-71-8, Didodecyl sulfosuccinate 10041-19-7, Bis(2-ethylhexyl) sulfosuccinate 23243-42-7, Dihexyl sulfosuccinate **159467-97-7**, Didodecyl 4-sulfophthalate **264192-28-1**, 4-Phthalosulfonic acid di(2-ethylhexyl) ester **384330-05-6**, Dipentyl 4-sulfophthalate **384330-06-7**, Dioctyl 4-sulfophthalate **384330-07-8**, Didecyl 4-sulfophthalate **384330-08-9**, 4-Phthalosulfonic acid di(2-butoxyethyl) ester **384330-09-0** 503475-18-1, Di(2-butoxyethyl) sulfosuccinate

RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(protonating agent, plasticizer; role of phthalosulfonate and sulfosuccinate esters in stretching and Tg and thermochromism and carrier localization in **polyaniline**)

IT 25233-30-1, **Polyaniline**

RL: PRP (Properties)  
(role of phthalosulfonate and sulfosuccinate esters in stretching and Tg and thermochromism and carrier localization in **polyaniline**)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Angelopoulos, M; Synth Met 1987, V21, P21 HCAPLUS
- (3) Anon; <http://www.ill.fr/YellowBook/IN13>
- (4) Bee, M; Appl Phys A in press
- (5) Cao, Y; Synth Met 1992, V48, P91 HCAPLUS
- (6) Djurado, D; Phys Rev B 2002, V65, P184202
- (7) Dufour, B; Chem Mater 2001, V13, P4032 HCAPLUS
- (8) Dufour, B; Synth Met (these proceedings)
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- (10) Hundley, M; Synth Met in press
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- (20) Rannou, P; Synth Met 1999, V101, P734 HCAPLUS
- (21) Rannou, P; Synth Met 1999, V101, P829 HCAPLUS
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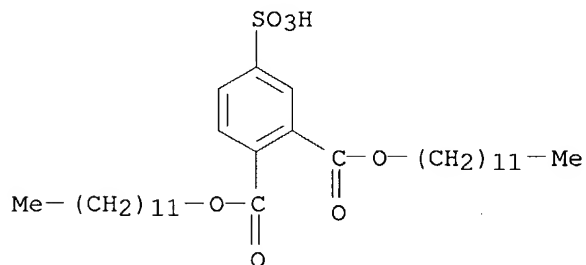
IT **159467-97-7**, Didodecyl 4-sulfophthalate **264192-28-1**, 4-Phthalosulfonic acid di(2-ethylhexyl) ester **384330-05-6**, Dipentyl 4-sulfophthalate **384330-06-7**, Dioctyl 4-sulfophthalate **384330-07-8**, Didecyl 4-sulfophthalate **384330-08-9**, 4-Phthalosulfonic acid di(2-butoxyethyl) ester **384330-09-0**

RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(protonating agent, plasticizer; role of phthalosulfonate and

sulfosuccinate esters in stretching and Tg and thermochromism and carrier localization in **polyaniline**)

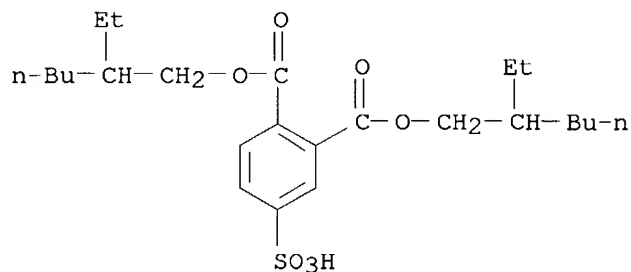
RN 159467-97-7 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-didodecyl ester (9CI) (CA INDEX NAME)



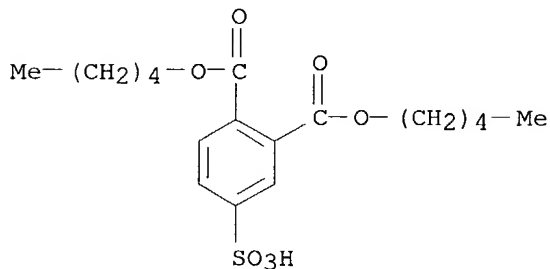
RN 264192-28-1 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI) (CA INDEX NAME)



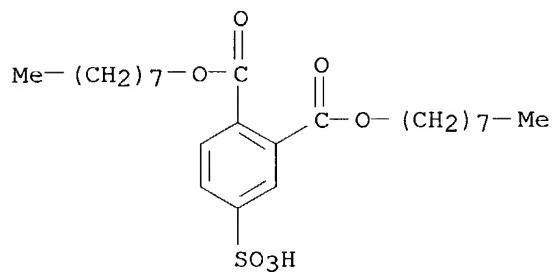
RN 384330-05-6 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-dipentyl ester (9CI) (CA INDEX NAME)

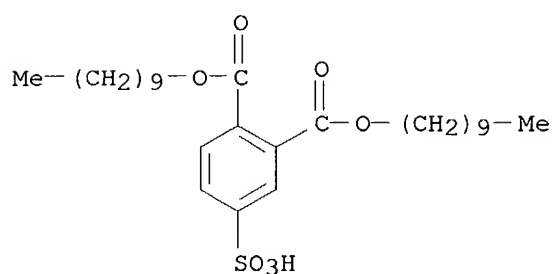


RN 384330-06-7 HCAPLUS

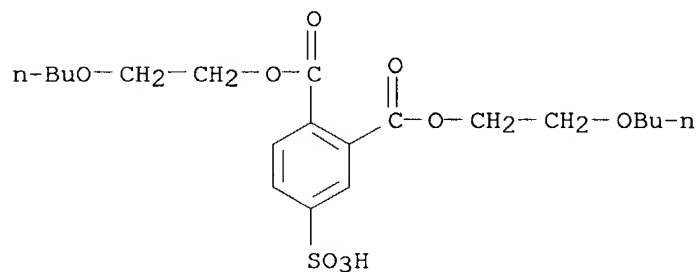
CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-dioctyl ester (9CI) (CA INDEX NAME)



RN 384330-07-8 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-didecyl ester (9CI) (CA INDEX NAME)

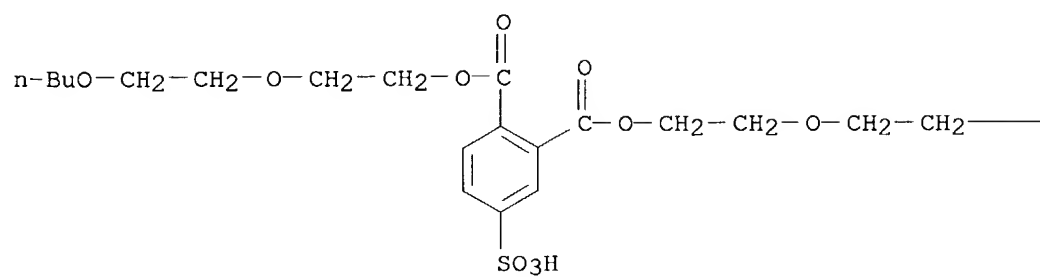


RN 384330-08-9 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-butoxyethyl) ester (9CI) (CA INDEX NAME)



RN 384330-09-0 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis[2-(2-butoxyethoxy)ethyl] ester (9CI) (CA INDEX NAME)

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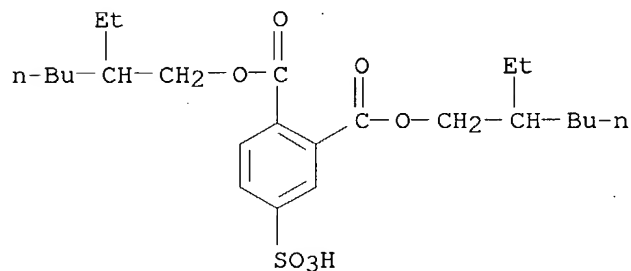
PAGE 1-B

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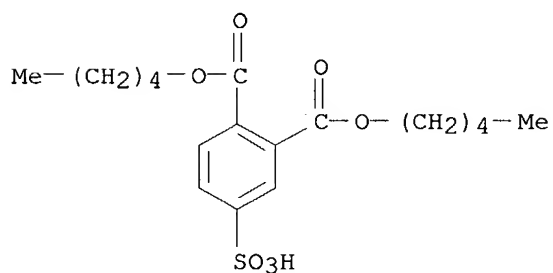
L48 ANSWER 5 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2003:230349 HCAPLUS  
 DN 139:76666  
 ED Entered STN: 25 Mar 2003  
 TI Dynamics of flexible counter-ions in conducting **polyaniline**: A  
 quasielastic neutron-scattering study  
 AU Bee, M.; Djurado, D.; Combet, J.; Gonzalez, M. A.; Rannou, P.; Dufour, B.;  
 Marque, D.  
 CS Institut Laue-Langevin, Grenoble, 38042, Fr.  
 SO Applied Physics A: Materials Science & Processing (2002), 74(Suppl., Pt.  
 1), S402-S404  
 CODEN: APAMFC; ISSN: 0947-8396  
 PB Springer-Verlag  
 DT Journal  
 LA English  
 CC 76-1 (Electric Phenomena)  
 Section cross-reference(s): 36  
 AB Conducting **polyaniline** protonated with sulfonic flexible  
 counter-ions was investigated by quasielastic incoherent neutron  
 scattering. In addition to their role in elec. properties, the flexible  
 counterions also increase the elasticity of the samples. As in the case  
 of more rigid counterions, polymer chains appear as very stiff objects  
 whose dynamics is completely outside the investigated time scale.  
 Conversely, the counterion dynamics was proved to be of major importance  
 in charge transport since a dynamical transition is observed precisely in the  
 temperature range where the electronic properties change from a metallic to a  
 semiconducting regime.  
 ST doped **polyaniline** counterion phase transition  
 IT Conducting polymers  
 Counterions  
 Doping  
 Elasticity  
 Electric conductivity transition  
 Electron transport  
 Neutron scattering  
 Phase transition temperature  
 Polymer chains  
 (dynamics of flexible counterions in conducting **polyaniline**)  
 IT **Polyanilines**  
 RL: PRP (Properties)  
 (dynamics of flexible counterions in conducting **polyaniline**)  
 IT 25233-30-1, **Polyaniline** 264192-28-1,  
 1,2-Di(2-ethylhexyl) 4-sulfophthalate 384330-05-6, Dipentyl  
 4-sulfophthalate  
 RL: PRP (Properties)  
 (dynamics of flexible counterions in conducting **polyaniline**)  
 RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Bee, M; Chem Phys, in press  
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 (4) Bee, M; in press  
 (5) Carpentier, L; Mol Phys 1989, V68, P1367 HCAPLUS  
 (6) Djurado, D; Phys Rev B, submitted  
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 (8) Djurado, D; Synth Met 2001, V119, P411 HCAPLUS  
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 (10) Olinga, T; Macromolecules 2000, V33, P2107 HCAPLUS

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IT 264192-28-1, 1,2-Di(2-ethylhexyl) 4-sulfophthalate  
 384330-05-6, Dipentyl 4-sulfophthalate  
 RL: PRP (Properties)  
 (dynamics of flexible counterions in conducting **polyaniline**)  
 RN 264192-28-1 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
 (CA INDEX NAME)



RN 384330-05-6 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-dipentyl ester (9CI) (CA  
 INDEX NAME)





L48 ANSWER 6 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:713323 HCAPLUS  
 DN 137:370738  
 ED Entered STN: 20 Sep 2002  
 TI Temperature-Induced Transitions in Doped **Polyaniline**:  
 Correlation between Glass Transition, Thermochromism and Electrical  
 Transport  
 AU Rannou, Patrice; Dufour, Bruno; Travers, Jean-Pierre; Pron, Adam; Djurado,  
 David; Janeczek, Henryk; Sek, Danuta  
 CS Laboratoire de Physique des Metaux Synthetiques, CEA-Grenoble, Grenoble,  
 38054, Fr.  
 SO Journal of Physical Chemistry B (2002), 106(41), 10553-10559  
 CODEN: JPCBFK; ISSN: 1520-6106  
 PB American Chemical Society  
 DT Journal  
 LA English  
 CC 37-5 (Plastics Manufacture and Processing)  
 AB Doping (protonation) of **polyaniline** (PANI) in the oxidation state  
 of emeraldine with diesters of 4-sulfophthalic acid containing flexible alkyl  
 or alkoxy substituents leads to flexible, partially crystalline polymeric  
 conductors which show supramol. organization of layered-type. Diesters  
 doped PANI exhibits two glass transition temps. Tg1 and Tg2 corresponding  
 to the freezing of the movement of the dopant substituents and of the  
 movements of polymer-dopant anion association, resp. A strong thermochromic  
 effect in the UV-vis-NIR spectra is observed at sub-Tg1 temps. indicating  
 increasing charge carriers localization. This thermochromic effect can be  
 correlated with the  $\sigma_{dc} = f(T)$  relationship which unequivocally shows  
 that at low temps. ( $T < 100$  K) the sample is in the insulating state which  
 is another manifestation of the increasing localization of charge  
 carriers.  
 ST doped **polyaniline** glass transition thermochromism elec  
 transport; sulfophthalic acid doped **polyaniline**  
 IT Electric conductivity  
 Glass transition temperature  
 Thermochromism  
 (correlation between glass transition, thermochromism and elec.  
 transport of sulfophthalate-doped **polyaniline**)  
 IT **Polyanilines**  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
 formulation); PRP (Properties); PYP (Physical process); PROC (Process);  
 USES (Uses)  
 (correlation between glass transition, thermochromism and elec.  
 transport of sulfophthalate-doped **polyaniline**)  
 IT Activation energy  
 (reduced; correlation between glass transition, thermochromism and  
 elec. transport of sulfophthalate-doped **polyaniline**)  
 IT 159467-97-7 264192-28-1 384330-05-6  
 384330-06-7 384330-08-9 384330-09-0  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (correlation between glass transition, thermochromism and elec.  
 transport of sulfophthalate-doped **polyaniline**)  
 IT 25233-30-1, **Polyaniline**  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
 formulation); PRP (Properties); PYP (Physical process); PROC (Process);  
 USES (Uses)  
 (correlation between glass transition, thermochromism and elec.  
 transport of sulfophthalate-doped **polyaniline**)  
 RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Abell, L; Synth Met 1997, V84, P127 HCAPLUS
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- (3) Beadle, P; Synth Met 1998, V95, P29 HCAPLUS
- (4) Bee, M; Appl Phys A, in press 2002
- (5) Bredas, J; Macromolecules 1990, V23, P1150 HCAPLUS
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IT 159467-97-7 264192-28-1 384330-05-6

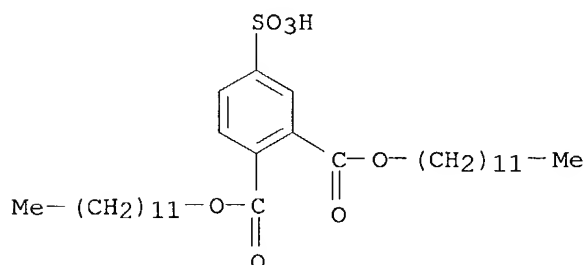
384330-06-7 384330-08-9 384330-09-0

RL: MOA (Modifier or additive use); USES (Uses)

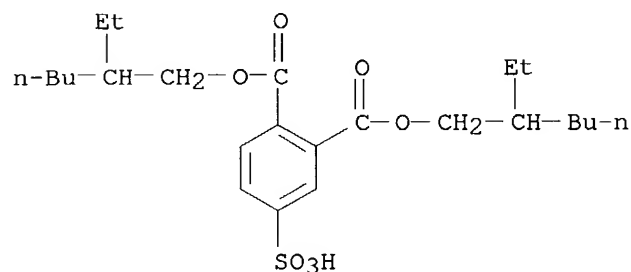
(correlation between glass transition, thermochromism and elec. transport of sulfophthalate-doped **polyaniline**)

RN 159467-97-7 HCAPLUS

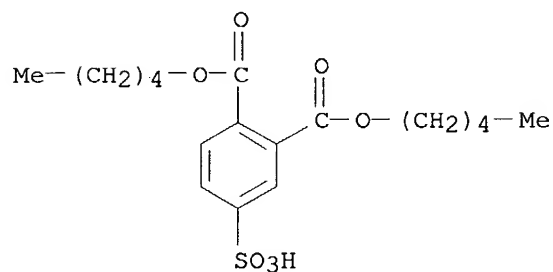
CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-didodecyl ester (9CI) (CA INDEX NAME)



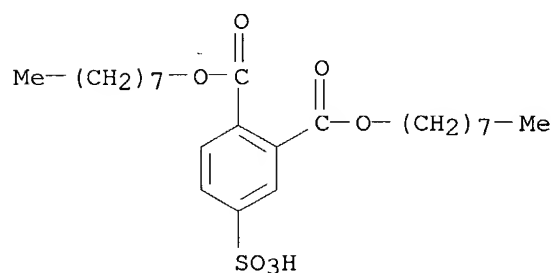
RN 264192-28-1 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
 (CA INDEX NAME)



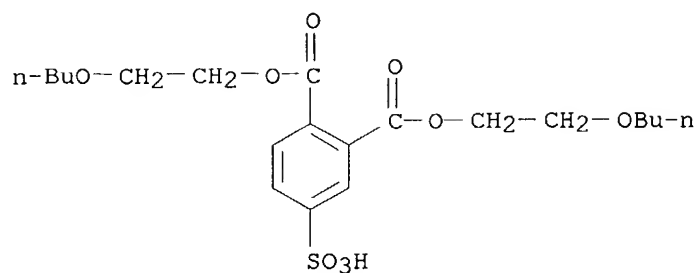
RN 384330-05-6 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-dipentyl ester (9CI) (CA  
 INDEX NAME)



RN 384330-06-7 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-dioctyl ester (9CI) (CA INDEX  
 NAME)

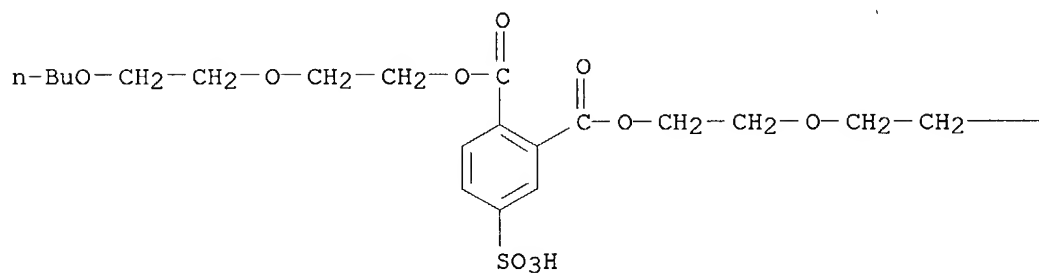


RN 384330-08-9 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-butoxyethyl) ester (9CI)  
 (CA INDEX NAME)



RN 384330-09-0 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis[2-(2-butoxyethoxy)ethyl]  
 ester (9CI) (CA INDEX NAME)

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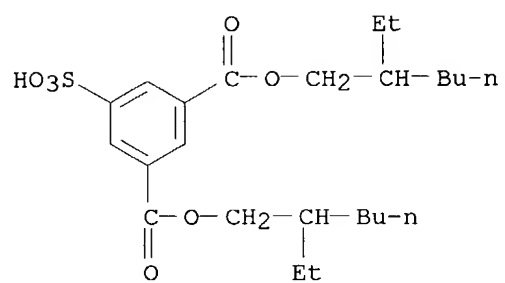


PAGE 1-B

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L48 ANSWER 7 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:596084 HCAPLUS  
DN 137:279846  
ED Entered STN: 11 Aug 2002  
TI Flexible **polyaniline** of metallic type conductivity obtained via  
protonation of emeraldine base with 2-ethylhexyl diester of  
5-sulfo-i-phthalic acid  
AU Zagorska, M.; Kulszewicz-Bajer, I.; Blet, O.; Zawirska, P.; Dufour, B.;  
Rannou, P.; Pron, A.  
CS Faculty of Chemistry, Warsaw University of Technology, Warsaw, 00-664,  
Pol.  
SO Molecular Crystals and Liquid Crystals Science and Technology, Section A:  
Molecular Crystals and Liquid Crystals (2002), 374, 569-576  
CODEN: MCLCE9; ISSN: 1058-725X  
PB Taylor & Francis Ltd.  
DT Journal  
LA English  
CC 37-5 (Plastics Manufacture and Processing)  
Section cross-reference(s): 76  
AB **Polyaniline** doped with 2-ethylhexyl diester of  
5-sulfo-i-phthalic acid shows elec. conductivity exceeding 120 S.cm<sup>-1</sup> at room  
temperature which in addition is metallic in character down to 190 K. Due to  
plasticizing properties of the protonating dopant the polymer exhibits  
excellent mech. properties.  
ST **polyaniline** ethylhexyl sulfoisophthalate elec cond  
IT Electric conductivity  
(metallic-type conductivity of protonated **polyaniline** containing  
bis(ethylhexyl) sulfoisophthalate)  
IT **Polyanilines**  
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(metallic-type conductivity of protonated **polyaniline** containing  
bis(ethylhexyl) sulfoisophthalate)  
IT **51307-83-6**  
RL: MOA (Modifier or additive use); USES (Uses)  
(dopant; metallic-type conductivity of protonated **polyaniline** containing  
bis(ethylhexyl) sulfoisophthalate)  
IT 25233-30-1, **Polyaniline**  
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(doped; metallic-type conductivity of protonated **polyaniline** containing  
bis(ethylhexyl) sulfoisophthalate)  
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
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(2) Dufour, B; Chem Mater in press  
(3) Ikkala, O; J Chem Phys 1995, V103, P9855 HCAPLUS  
(4) Kohlman, R; Physical Properties of Polymers Handbook 1996, P453 HCAPLUS  
(5) Kulszewicz-Bajer, I; Synth Met 1999, V101, P713 HCAPLUS  
(6) Kulszewicz-Bajer, I; Synth Met 2000, V114, P125 HCAPLUS  
(7) Olinga, T; Macromolecules 2000, V33, P2107 HCAPLUS  
(8) Vorel, M; Tschech Patent No 265300 1990  
(9) Xia, Y; Chem Mater 1995, V7, P443 HCAPLUS  
IT **51307-83-6**  
RL: MOA (Modifier or additive use); USES (Uses)  
(dopant; metallic-type conductivity of protonated **polyaniline** containing  
bis(ethylhexyl) sulfoisophthalate)  
RN 51307-83-6 HCAPLUS  
CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis(2-ethylhexyl) ester (9CI)  
(CA INDEX NAME)

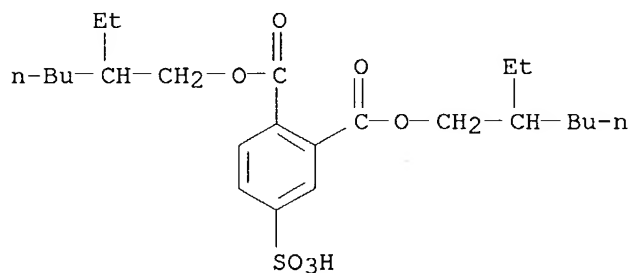
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



L48 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:261252 HCAPLUS  
 DN 137:70873  
 ED Entered STN: 09 Apr 2002  
 TI Continuous percolation in organic conducting blends  
 AU Planes, J.; Bord, S.; Frayssse, J.  
 CS Laboratoire de Physique des Metaux Synthetiques, Departement de Recherche  
 Fondamentale sur la Matiere Condensee, UMR 5819 CEA-CNRS-Universite Joseph  
 Fourier, CEA-Grenoble, Grenoble, F-38054, Fr.  
 SO Physica Status Solidi B: Basic Research (2002), 230(1), 289-293  
 CODEN: PSSBBD; ISSN: 0370-1972  
 PB Wiley-VCH Verlag Berlin GmbH  
 DT Journal  
 LA English  
 CC 76-1 (Electric Phenomena)  
 Section cross-reference(s): 36  
 AB Electronic transport properties of organic conductive blends made of doped  
 poly(aniline) and conventional insulating matrixes exhibit non-standard  
 dependences on temperature T and conducting phase contents p. We propose a new  
 anal. of conductivity data that accounts for the interplay of microscopic  
 mechanisms - essentially hopping - and percolation effects. The  
 continuous percolation scheme allows us to understand the T dependence of  
 the conductivity exponent of percolation. This in turn is responsible for the  
 apparent p dependence of the hopping parameters. It is possible to derive  
 these effective parameters from those of the pure poly(aniline). We thus  
 end up with a closed form formula to fit the whole set of conductivity data  
 $\sigma(p,T)$ . The consequences of this anal. are discussed.  
 ST percolation doped **polyaniline** blend elec cond  
 IT Conducting polymers  
 Doping  
 Electric conductivity  
 Hopping conductivity  
 Percolation  
 (continuous percolation in organic conducting blends)  
 IT **Polyanilines**  
 Polymer blends  
 RL: PRP (Properties)  
 (continuous percolation in organic conducting blends)  
 IT 9011-14-7, PMMA 25233-30-1, **Polyaniline**  
 RL: PRP (Properties)  
 (continuous percolation in organic conducting blends)  
 IT **264192-28-1**, 1,2-Benzenedicarboxylic acid, 4-sulfo-,  
 1,2-bis-(2-ethylhexyl) ester  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (dopant; continuous percolation in organic conducting blends)  
 RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
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 (10) Sheng, P; Phys Rev Lett 1973, V31, P44 HCAPLUS  
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- (12) Stauffer, D; Introduction to Percolation Theory 1994  
 (13) Tanaka, H; J Phys: Condens Matter 2000, V12, PR207 HCAPLUS  
 (14) Travers, J; Synth Met 1999, V101, P359 HCAPLUS  
 (15) Yang, C; Synth Met 1993, V53, P293 HCAPLUS  
 (16) Zuppirolli, L; Phys Rev B 1994, V50, P5196  
 IT **264192-28-1**, 1,2-Benzenedicarboxylic acid, 4-sulfo-,  
 1,2-bis-(2-ethylhexyl) ester  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (dopant; continuous percolation in organic conducting blends)  
 RN 264192-28-1 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
 (CA INDEX NAME)





L48 ANSWER 9 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:769676 HCAPLUS  
 DN 136:70552  
 ED Entered STN: 24 Oct 2001  
 TI Effect of Plasticizing Dopants on Spectroscopic Properties, Supramolecular  
 Structure, and Electrical Transport in Metallic **Polyaniline**  
 AU Dufour, Bruno; Rannou, Patrice; Fedorko, Pavol; Djurado, David; Travers,  
 Jean-Pierre; Pron, Adam  
 CS Laboratoire de Physique des Metaux Synthetiques, UMR 5819  
 CEA-CNRS-Universite J. Fourier-Grenoble I DRFMC CEA-Grenoble, Grenoble,  
 38054, Fr.  
 SO Chemistry of Materials (2001), 13(11), 4032-4040  
 CODEN: CMATEX; ISSN: 0897-4756  
 PB American Chemical Society  
 DT Journal  
 LA English  
 CC 37-5 (Plastics Manufacture and Processing)  
 AB Several 1,2-benzenedicarboxylic acid, 4-sulfo, 1,2-di(alkyl), or  
 di(alkoxy) esters were synthesized and tested as plasticizing dopants  
 which lead to solution processible (via counterion) **polyaniline**  
 with improved mech. properties and metallic-type conductivity As evidenced by  
 wide-angle X-ray diffraction and small-angle X-ray scattering studies,  
 PANI doped with the above dopants shows in the solid state a layered type  
 of structural organization with the chain-dopant-chain distance clearly  
 correlated with the length of the alkyl substituent in the dopant. The  
 addition of an external plasticizer of the type of dioctyl phthalate or  
 tritolyl phosphate to PANI doped with the above diesters improves both the  
 mol. ordering and the metallic behavior of the material. The largest  
 range of metallic type of conductivity was found for di-butoxyethyl ester  
 doped-PANI. Solution processibility of PANI can also be improved by the  
 application of a new procedure called "mixed-doping" which involves  
 Bronsted acid doping followed by Lewis acid one.  
 ST sulfobenzenedicarboxylate plasticizing dopant **polyaniline**  
 property; elec cond sulfobenzenedicarboxylate plasticizing dopant  
**polyaniline**; dioctyl phthalate plasticizer **polyaniline**  
 property; tritolyl phosphate plasticizer **polyaniline** property  
 IT Electric conductivity  
 Plasticizers  
 Polymer chains  
 Stress-strain relationship  
 (effect of sulfobenzenedicarboxylate plasticizing dopant on  
 spectroscopic properties, supramol. structure, and elec. transport in  
 metallic **polyaniline**)  
 IT **Polyanilines**  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (effect of sulfobenzenedicarboxylate plasticizing dopant on  
 spectroscopic properties, supramol. structure, and elec. transport in  
 metallic **polyaniline**)  
 IT 159467-97-7P 264192-28-1P 384330-05-6P  
 384330-06-7P 384330-07-8P 384330-08-9P  
 384330-09-0P  
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (effect of sulfobenzenedicarboxylate plasticizing dopant on  
 spectroscopic properties, supramol. structure, and elec. transport in  
 metallic **polyaniline**)  
 IT 25233-30-1, **Polyaniline**  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(effect of sulfobenzenedicarboxylate plasticizing dopant on spectroscopic properties, supramol. structure, and elec. transport in metallic **polyaniline**)

IT 89-08-7, 4-Sulfo-1,2-benzenedicarboxylic acid  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (esterification of)

IT 117-81-7, Bis(2-ethylhexyl) phthalate 1330-78-5, Tritolyl phosphate  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (plasticizers; effect of sulfobenzenedicarboxylate plasticizing dopant on spectroscopic properties, supramol. structure, and elec. transport in metallic **polyaniline**)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD

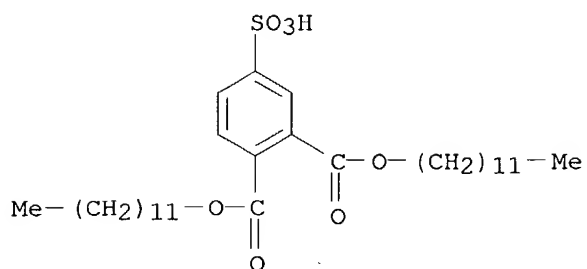
RE

- (1) Adams, P; J Phys Condens Matter 1998, V10, P8293 HCAPLUS
- (2) Ahlskog, M; Phys Rev B 1997, V55, P6777 HCAPLUS
- (3) Berner, D; J Chim Phys (Paris) 1998, V95, P141
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- (10) Ikkala, O; Macromolecules 1995, V28, P7088 HCAPLUS
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- (12) Kohlman, R; Physical Properties of Polymers Handbook 1996, P453 HCAPLUS
- (13) Kulszewicz-Bajer, I; Chem Mater 1999, V11, P552 HCAPLUS
- (14) Kulszewicz-Bajer, I; Synth Met 2001, V119, P343
- (15) Levon, K; Polymer 1995, V36, P2733 HCAPLUS
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- (17) Olinga, T; Macromolecules 2000, V33, P2107 HCAPLUS
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- (20) Vikki, T; Macromolecules 1996, V29, P2945 HCAPLUS
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- (22) Yoon, C; Phys Rev B 1994, V49, P1085
- (23) Zheng, W; Macromol Chem Phys 1995, V196, P2443 HCAPLUS
- (24) Zheng, W; Macromolecules 1997, V30, P2953 HCAPLUS

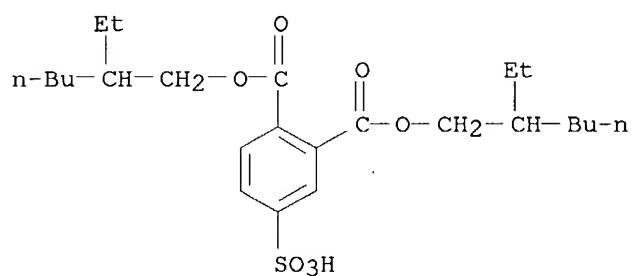
IT 159467-97-7P 264192-28-1P 384330-05-6P  
 384330-06-7P 384330-07-8P 384330-08-9P  
 384330-09-0P  
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (effect of sulfobenzenedicarboxylate plasticizing dopant on spectroscopic properties, supramol. structure, and elec. transport in metallic **polyaniline**)

RN 159467-97-7 HCAPLUS

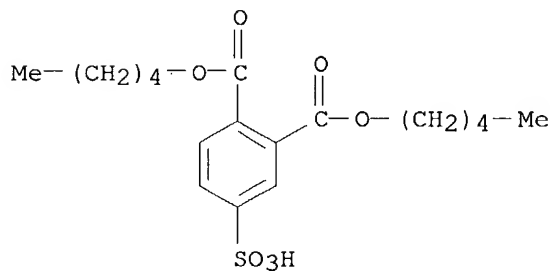
CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-didodecyl ester (9CI) (CA INDEX NAME)



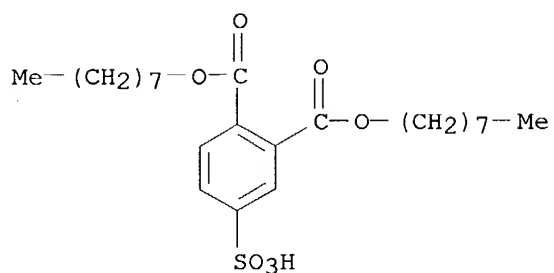
RN 264192-28-1 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
 (CA INDEX NAME)



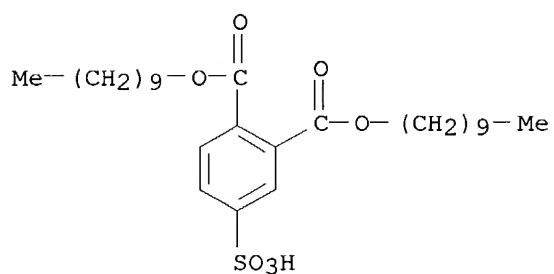
RN 384330-05-6 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-dipentyl ester (9CI) (CA  
 INDEX NAME)



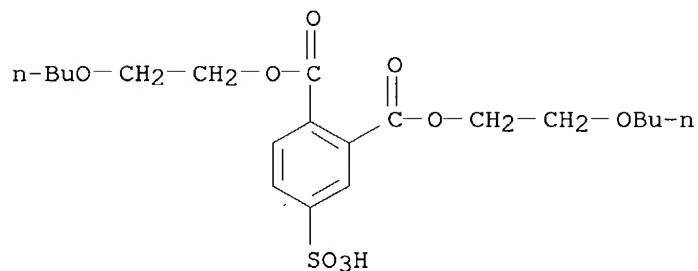
RN 384330-06-7 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-dioctyl ester (9CI) (CA INDEX  
 NAME)



RN 384330-07-8 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-didecyl ester (9CI) (CA INDEX NAME)

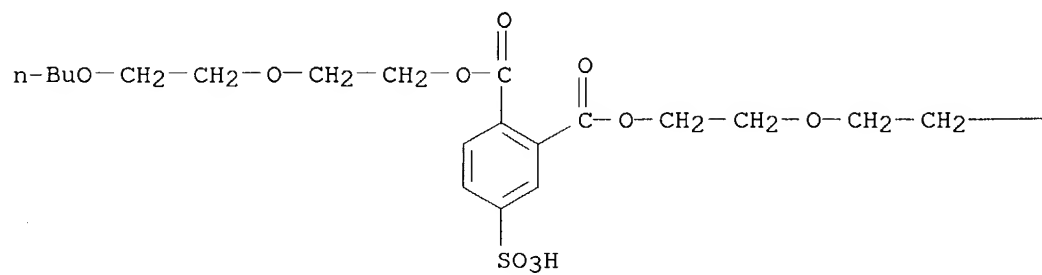


RN 384330-08-9 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-butoxyethyl) ester (9CI) (CA INDEX NAME)



RN 384330-09-0 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis[2-(2-butoxyethoxy)ethyl] ester (9CI) (CA INDEX NAME)

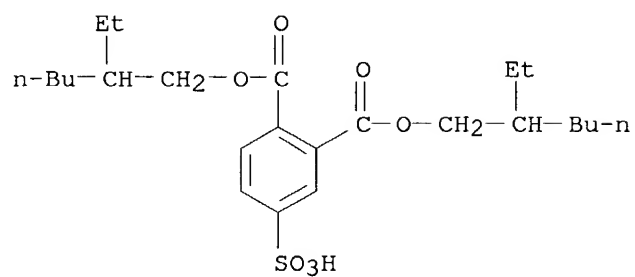
PAGE 1-A



PAGE 1-B

— O Bu-n

L48 ANSWER 10 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:355968 HCAPLUS  
 DN 135:108040  
 ED Entered STN: 18 May 2001  
 TI New counterion-plasticized **polyaniline** with improved mechanical and thermal properties comparison with PANI-CSA  
 AU Fedorko, P.; Fraysse, J.; Dufresne, A.; Planes, J.; Travers, J. P.; Olinga, T.; Kramer, C.; Rannou, P.; Pron, A.  
 CS Laboratoire de Physique des Metaux Synthetique, DRFMC, UMR 5819 CEA-CNRS-UJF, CEA-Grenoble, Grenoble, 38054, Fr.  
 SO Synthetic Metals (2001), 119(1-3), 445-446  
 CODEN: SYMEDZ; ISSN: 0379-6779  
 PB Elsevier Science S.A.  
 DT Journal  
 LA English  
 CC 37-5 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 76  
 AB Elec. and mech. properties, as well as conductivity evolution under thermal ageing were investigated in a newly developed **polyaniline** system based on a new multifunctional dopant, bis(2-ethylhexyl) ester of 4-sulfophthalic acid. From comparison with PANI-CSA, it appears that mech. properties and thermal stability are considerably improved while metallic-like conductivity is preserved.  
 ST mech elec thermal property ethylhexyl sulfophthalate doped **polyaniline**  
 IT Conducting polymers  
 Electric conductivity  
 Heat-resistant materials  
 (bis(ethylhexyl) sulfophthalate-doped **polyaniline** with improved mech. and thermal properties comparison with PANI-CSA)  
 IT **Polyanilines**  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (bis(ethylhexyl) sulfophthalate-doped **polyaniline** with improved mech. and thermal properties comparison with PANI-CSA)  
 IT Elongation, mechanical  
 (breaking; bis(ethylhexyl) sulfophthalate-doped **polyaniline** with improved mech. and thermal properties comparison with PANI-CSA)  
 IT **264192-28-1**  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (bis(ethylhexyl) sulfophthalate-doped **polyaniline** with improved mech. and thermal properties comparison with PANI-CSA)  
 IT 25233-30-1, **Polyaniline**  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (bis(ethylhexyl) sulfophthalate-doped **polyaniline** with improved mech. and thermal properties comparison with PANI-CSA)  
 RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Beadle, P; Synth Met 1998, V95, P29 HCAPLUS  
 (2) Cao, Y; Synth Met 1992, V48, P91 HCAPLUS  
 (3) Nechtschein, M; Synth Met 1987, V18, P311 HCAPLUS  
 (4) Olinga, T; Macromolecules 2000, V33, P2107 HCAPLUS  
 IT **264192-28-1**  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (bis(ethylhexyl) sulfophthalate-doped **polyaniline** with improved mech. and thermal properties comparison with PANI-CSA)  
 RN 264192-28-1 HCAPLUS  
 CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
 (CA INDEX NAME)



L48 ANSWER 11 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:355966 HCAPLUS  
 DN 135:108099  
 ED Entered STN: 18 May 2001  
 TI New PANI/dopant/solvent associations for processing of metallic PANI  
 AU Rannou, P.; Dufour, B.; Travers, J. P.; Pron, A.  
 CS 17 rue des Martyrs 38 054, Laboratoire de Physics des Metaux  
 Synthetique/UMR 5819-SPrAM (CEA-CNRS-Univ. J. Fourier)/DRFMC/CEA-Grenoble,  
 Grenoble, Fr.  
 SO Synthetic Metals (2001), 119(1-3), 441-442  
 CODEN: SYMEDZ; ISSN: 0379-6779  
 PB Elsevier Science S.A.  
 DT Journal  
 LA English  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 76  
 AB New processing systems are analyzed with the goal of the preparation of doped  
 PANI with improved mech. properties and exhibiting metallic type conductivity  
 Special emphasis is put on the relationship between structural features of  
 the dopant and its ability to induce charge carriers delocalization as  
 probed by UV-Vis-NIR spectroscopy.  
 ST **polyaniline** sulfonic phosphoric acid diester dopant cond UV  
 absorption  
 IT Conducting polymers  
 Dopants  
 Electric conductivity  
 (new PANI/dopant/solvent assocns. for processing of metallic PANI)  
 IT Solvents  
 (organic; new PANI/dopant/solvent assocns. for processing of metallic  
 PANI)  
 IT **Polyanilines**  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (sulfonic acids and phosphoric acid diesters-doped; new  
 PANI/dopant/solvent assocns. for processing of metallic PANI)  
 IT 645-15-8, Bis(4-nitrophenyl)hydrogen phosphate 838-85-7, Diphenyl  
 hydrogen phosphate 5872-08-2, DL-Camphor-10-sulfonic acid 35193-63-6,  
 1,1'-Binaphthyl-2,2'-diyl hydrogen phosphate **264192-28-1**  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (dopant; new PANI/dopant/solvent assocns. for processing of metallic  
 PANI)  
 IT 79-43-6, Dichloroethanoic acid, uses 108-39-4, uses 920-66-1,  
 1,1,1,3,3,3-Hexafluoro-2-propanol  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (solvent; new PANI/dopant/solvent assocns. for processing of metallic  
 PANI)  
 IT 25233-30-1, **Polyaniline**  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (sulfonic acids and phosphoric acid diesters-doped; new  
 PANI/dopant/solvent assocns. for processing of metallic PANI)  
 RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Adams, P; J Phys: Condens Matter 1998, V10, P8293 HCAPLUS  
 (2) Beadle, P; Synth Met 1998, V95, P29 HCAPLUS  
 (3) Cao, Y; Synth Met 1992, V48, P91 HCAPLUS  
 (4) Cao, Y; Synth Met 1995, V69, P187 HCAPLUS  
 (5) Ikkala, O; Synth Met 1997, V84, P55 HCAPLUS  
 (6) MacDiarmid, A; Synth Met 1994, V65, P103 HCAPLUS  
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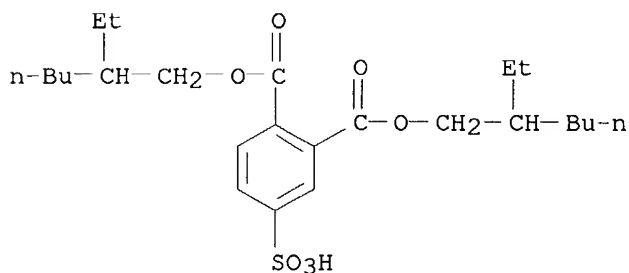
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- (10) Rannou, P; Macromolecules 1998, V31, P3007 HCAPLUS
- (11) Reghu, M; Handbook of Conducting Polymers 1998, P95
- (12) Reghu, M; Phys Rev B 1993, V47, P1758 HCAPLUS
- (13) Xia, Y; Chem Mater 1995, V7, P445

IT 264192-28-1

RL: MOA (Modifier or additive use); USES (Uses)  
 (dopant; new PANI/dopant/solvent assocns. for processing of metallic PANI)

RN 264192-28-1 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
 (CA INDEX NAME)



L48 ANSWER 12 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:355953 HCAPLUS  
 DN 135:108033  
 ED Entered STN: 18 May 2001  
 TI Lewis acid doping of poly(aniline): processing, spectroscopic and structural consequences  
 AU Genoud, F.; Kulszewicz-Bajer, I.; Dufour, B.; Rannou, P.; Pron, A.  
 CS 17 rue des Martyrs 38 054, Laboratoire de Physics des Metaux Synthetiques/UMR 5819-SPRAM(CEA-CNRS-Univ. J. Fourier)/DRFMC/CEA-Grenoble, Grenoble, Fr.  
 SO Synthetic Metals (2001), 119(1-3), 415-416.  
 CODEN: SYMEDZ; ISSN: 0379-6779  
 PB Elsevier Science S.A.  
 DT Journal  
 LA English  
 CC 37-5 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 76  
 AB Lewis acids such as AlCl<sub>3</sub>, GaCl<sub>3</sub>, FeCl<sub>3</sub>, SnCl<sub>4</sub>, SbCl<sub>5</sub>, and others readily complex **polyaniline** (PANI) on both imine and amine nitrogens rendering this polymer soluble in nitromethane and acetonitrile i.e. solvents which dissolve neither base nor protonated (Bronsted acid doped) form of PANI. Films of Lewis acid doped PANI show distinctly different spectral features from those reported for protonated PANI. They are also less conductive (typical conductivity 10<sup>-2</sup>-10<sup>-3</sup> S.cm<sup>-1</sup>). Mixed PANI doping (Bronsted acid doping followed by the Lewis acid one) leads to a polymer with improved solution processibility and conductivity comparable to that of protonated PANI.  
 ST Lewis acid doping **polyaniline** processability; Bronsted Lewis acid combined doping **polyaniline** property; antimony chloride doping **polyaniline** property; tin chloride doping **polyaniline** property; iron chloride doping **polyaniline** property; gallium chloride doping **polyaniline** property; aluminum chloride doping **polyaniline** property; spectra Lewis acid doped **polyaniline**  
 IT Conducting polymers  
 Electric conductivity  
 Mossbauer effect  
 (Lewis acid doping of poly(aniline): processing, spectroscopic and structural consequences)  
 IT Lewis acids  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (Lewis acid doping of poly(aniline): processing, spectroscopic and structural consequences)  
 IT **Polyanilines**  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (with emeraldine structure; Lewis acid doping of poly(aniline): processing, spectroscopic and structural consequences)  
 IT 7446-70-0, Aluminum chloride, properties 7646-78-8, Tin tetrachloride, properties 7647-18-9, Antimony pentachloride 7705-08-0, Ferric chloride, properties 13450-90-3, Gallium chloride  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (Lewis acid doping of poly(aniline): processing, spectroscopic and structural consequences)  
 IT **264192-28-1**  
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (Lewis acid-Bronsted acid doping of poly(aniline): processing,

spectroscopic and structural consequences)

IT 25233-30-1, **Polyaniline**

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(with emeraldine structure; Lewis acid doping of poly(aniline):  
processing, spectroscopic and structural consequences)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

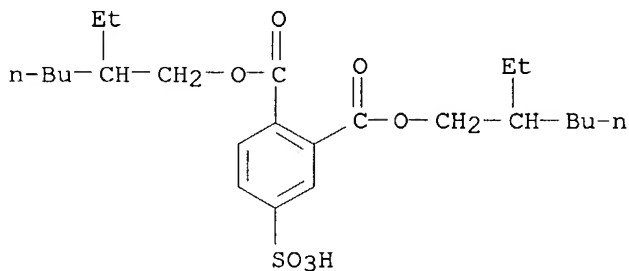
- (1) Beadle, P; Synth Met 1998, V95, P29 HCAPLUS
- (2) Cao, Y; Synth Met 1992, V48, P48
- (3) Genoud, F; Chem Mater 2000, V12, P744 HCAPLUS
- (4) Herber, R; Physica 1980, V99B, P352
- (5) Ikkala, O; Synth Met 1997, V84, P55 HCAPLUS
- (6) Kulszewicz-Bajer, I; Chem Mater 1999, V11, P552 HCAPLUS
- (7) Olinga, T; Macromolecules 2000, V32, P2107
- (8) Yang, C; Chem Mater 1991, V3, P878 HCAPLUS
- (9) Zheng, W; Macromolecules 1997, V30, P2953 HCAPLUS

IT **264192-28-1**

RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(Lewis acid-Bronsted acid doping of poly(aniline): processing,  
spectroscopic and structural consequences)

RN 264192-28-1 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
(CA INDEX NAME)



L48 ANSWER 13 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:355780 HCAPLUS  
 DN 135:108007  
 ED Entered STN: 18 May 2001  
 TI **Polyaniline** doped with esters of 5-sulfo-i-phthalic acid and its blends with nonconducting polymers  
 AU Kulszewicz-Bajer, I.; Zagorska, M.; Rozalska, I.  
 CS Faculty of Chemistry, Noakowskiego 3, Warsaw University of Technology, Warsaw, 00-664, Pol.  
 SO Synthetic Metals (2001), 119(1-3), 69-70  
 CODEN: SYMEDZ; ISSN: 0379-6779  
 PB Elsevier Science S.A.  
 DT Journal  
 LA English  
 CC 37-5 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 73, 76  
 AB **Polyaniline** doped with esters of 5-sulfo-i-phthalic acid is soluble in several solvents as chloroform, hexafluoro-2-propanol and dichloroacetic acid. In selected cases studied the solution spectra of the doped polymer are concentration dependent. Concentrated solns. give spectra characteristics of delocalized polarons whereas in diluted solns. features characteristic of localized polarons are observed The conducting blends of ester doped **polyaniline** with polyacrylates, polyurethanes and polyamide 6 have been obtained.  
 ST sulfoisophthalate doped **polyaniline** absorption spectra elec cond; polycaprolactam **polyaniline** blend  
 IT **Polyanilines**  
 RL: PRP (Properties)  
 (UV-visible-near IR spectra of sulfoisophthalate-doped **polyanilines**)  
 IT Polyamides, properties  
 RL: PRP (Properties)  
 (blends with sulfoisophthalate-doped **polyaniline**; elec. conductivity and UV-visible-near IR spectra of)  
 IT IR spectra  
 (near-IR; of sulfoisophthalate-doped **polyanilines**)  
 IT Doping  
 (of **polyaniline** with sulfoisophthalates)  
 IT Electric conductivity  
 (of sulfoisophthalate-doped **polyaniline**/polycaprolactam blends)  
 IT UV and visible spectra  
 (of sulfoisophthalate-doped **polyanilines**)  
 IT Polymer blends  
 RL: PRP (Properties)  
 (sulfoisophthalate-doped **polyaniline**/polycaprolactam; elec. conductivity and UV-visible-near IR spectra of)  
 IT 22326-31-4, 5-Sulfoisophthalic acid **178374-58-8**, Bis(2-butoxy-2-ethoxyethyl) 5-sulfoisophthalate  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (UV-visible-near IR spectra of sulfoisophthalate-doped **polyanilines**)  
 IT 25233-30-1, **Polyaniline**  
 RL: PRP (Properties)  
 (UV-visible-near IR spectra of sulfoisophthalate-doped **polyanilines**)  
 IT 25038-54-4, Polycaprolactam, properties  
 RL: PRP (Properties)

(blends with sulfoisophthalate-doped **polyaniline**; elec. conductivity and UV-visible-near IR spectra of)

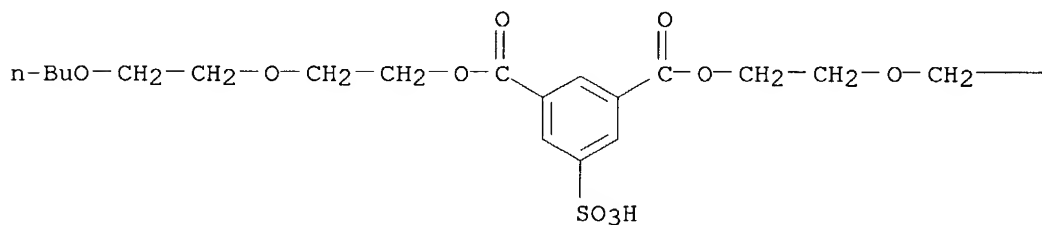
IT 79-43-6, Dichloroacetic acid, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (solvent; UV-visible-near IR spectra of sulfoisophthalate-doped **polyanilines** in)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Beadle, P; Synth Met 1998, V95, P29 HCAPLUS  
 (2) Cao, Y; Synth Met 1992, V48, P91 HCAPLUS  
 (3) Chan, H; Macromolecules 1994, V27, P2159 HCAPLUS  
 (4) Kulszewicz-Bajer, I; Synth Met 1999, V101, P713 HCAPLUS  
 (5) Pron, A; Synth Met 1993, V55-57, P3520  
 (6) Vorel, M; Tschech Patent No 265300 1990

IT **178374-58-8**, Bis(2-butoxy-2-ethoxyethyl) 5-sulfoisophthalate  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (UV-visible-near IR spectra of sulfoisophthalate-doped **polyanilines**)

RN 178374-58-8 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl] ester (9CI) (CA INDEX NAME)

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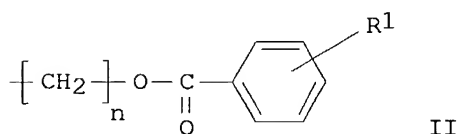
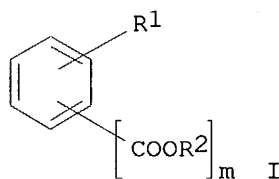
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L48 ANSWER 14 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:50938 HCAPLUS  
 DN 134:108998  
 ED Entered STN: 19 Jan 2001  
 TI Use of sulphonic and phosphonic acids as dopants of conductive  
**polyaniline** films and conductive composite materials based on  
**polyaniline**  
 IN Olinga, Thomas; Pron, Adam; Travers, Jean-Pierre  
 PA Commissariat a l'Energie Atomique, Fr.; Centre National de la Recherche  
 Scientifique  
 SO PCT Int. Appl., 37 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA French  
 IC ICM H01B001-12  
 CC 76-2 (Electric Phenomena)  
 Section cross-reference(s): 38

*applicant*

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001004910	A1	20010118	WO 2000-FR2017	20000712
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	FR 2796379	A1	20010119	FR 1999-9088	19990713
	FR 2796379	B1	20020524		
	EP 1194932	A1	20020410	EP 2000-951662	20000712
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2003504459	T2	20030204	JP 2001-509048	20000712
PRAI	FR 1999-9088	A	19990713		
	WO 2000-FR2017	W	20000712		
OS	MARPAT 134:108998				
GI					



AB The invention concerns the use of sulfonic and phosphonic acids functionalized with plasticizing groups as dopants of conductive **polyaniline** films and conductive composite materials based on **polyaniline**. Said acids correspond to formula (I) wherein: R<sub>1</sub>

represents -SO<sub>3</sub>H or PO<sub>3</sub>H<sub>2</sub>; R<sub>2</sub> represents a linear or branched alkyl group; and m is equal to 1 or 2; or R<sub>2</sub> is a group of formula (II) wherein: R<sub>1</sub> is such as defined in formula (II) and n is an integer ranging between 1 and 16; and m is equal to 1.

- ST sulfonic acid dopant conductive **polyaniline** film composite material; phosphonic acid dopant conductive **polyaniline** film composite material
- IT Carboxylic acids, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (dicarboxylic, diesters; use of sulfonic and phosphonic acids as dopants of conductive **polyaniline** films and conductive composite materials based on **polyaniline**)
- IT Composites  
 Conducting polymers  
 (use of sulfonic and phosphonic acids as dopants of conductive **polyaniline** films and conductive composite materials based on **polyaniline**)
- IT Sulfonic acids, uses  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (use of sulfonic and phosphonic acids as dopants of conductive **polyaniline** films and conductive composite materials based on **polyaniline**)
- IT **Polyanilines**  
 Polycarbonates, uses  
 Polyesters, uses  
 Polyurethanes, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (use of sulfonic and phosphonic acids as dopants of conductive **polyaniline** films and conductive composite materials based on **polyaniline**)
- IT 13598-36-2, Phosphonic acid  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (use of sulfonic and phosphonic acids as dopants of conductive **polyaniline** films and conductive composite materials based on **polyaniline**)
- IT 79-43-6, Dichloroacetic acid, reactions 89-08-7, 4-Sulfophthalic acid 104-76-7, 2-Ethyl-1-hexanol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (use of sulfonic and phosphonic acids as dopants of conductive **polyaniline** films and conductive composite materials based on **polyaniline**)
- IT 264192-28-1P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (use of sulfonic and phosphonic acids as dopants of conductive **polyaniline** films and conductive composite materials based on **polyaniline**)
- IT 88-99-3D, Phthalic acid, diesters 7664-38-2D, Phosphoric acid, triesters, uses 9002-86-2, Poly(vinyl chloride) 9003-53-6, Polystyrene 9004-34-6D, Cellulose, derivs., uses 9011-14-7, Poly(methyl methacrylate) 25233-30-1, **Polyaniline**  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (use of sulfonic and phosphonic acids as dopants of conductive **polyaniline** films and conductive composite materials based on **polyaniline**)
- RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Commissariat A L'Energie Atomique; WO 9805040 A 1998 HCAPLUS
- (3) Ikkala, O; US 5783111 A 1998 HCAPLUS

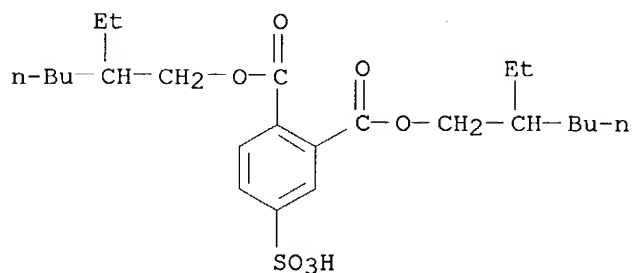
IT **264192-28-1P**

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(use of sulfonic and phosphonic acids as dopants of conductive **polyaniline** films and conductive composite materials based on **polyaniline**)

RN 264192-28-1 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
(CA INDEX NAME)



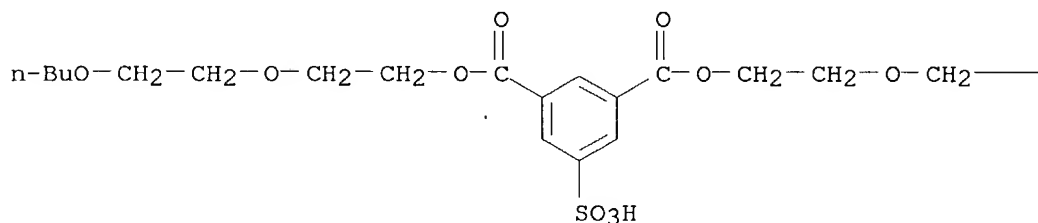


L48 ANSWER 15 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2000:456301 HCAPLUS  
DN 133:208656  
ED Entered STN: 07 Jul 2000  
TI Esters of 5-sulfo-i-phthalic acid as new dopants improving the solution processibility of **polyaniline**: spectroscopic, structural and transport properties of the doped polymer  
AU Kulszewicz-Bajer, I.; Zagorska, M.; Niziol, J.; Pron, A.; Luzny, W.  
CS Faculty of Chemistry, Warsaw University of Technology, Warsaw, 00-664, Pol.  
SO Synthetic Metals (2000), 114(2), 125-131  
CODEN: SYMEDZ; ISSN: 0379-6779  
PB Elsevier Science S.A.  
DT Journal  
LA English  
CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 73, 76  
AB Three esters of 5-sulfoisophthalic acid, namely di(n-amyl), bis(2-butoxyethyl) (BESIP), and bis(2-butoxy-2-ethoxyethyl) (BEESIP) 5-sulfoisophthalates, were synthesized and tested as **polyaniline** (PANI) doping agents with the goal of improving its solution processibility. PANI protonated with these acidic esters is soluble in chloroform, di-Et ketone, hexafluoro-2-propanol, m-cresol, and dichloroacetic acid (DCAA). Solns. of PANI(BESIP)0.5 in DCAA are especially interesting because their spectra are strongly concentration-dependent, showing a change in polymer conformation upon dilution. The spectra of dilute solns. exhibit features characteristic of the conformation that favors localized charge carriers, whereas with increasing polymer concentration, features ascribed to delocalized charge carriers begin to dominate the spectrum. Diffractograms of PANI(BESIP)0.5 and PANI(BEESIP)0.5 films cast from DCAA, in addition to a broad amorphous halo, show a sharp Bragg reflection at low angles ( $2\theta = 2-4^\circ$ ), which is indicative of self-organized supramol. structures previously observed for other polyelectrolyte-like systems with amphiphilic counterions. The highest conductivity (85 S/cm at RT) was obtained for PANI(BESIP)0.5.  
ST **polyaniline** dopant sulfoisophthalate ester  
IT Polymer chains  
(conformation; of **polyaniline** containing sulfoisophthalate ester dopants)  
IT **Polyanilines**  
RL: PRP (Properties)  
(esters of sulfoisophthalic acid as dopants for improving solution processibility of)  
IT Electric conductivity  
UV and visible spectra  
(of **polyaniline** containing sulfoisophthalate ester dopants)  
IT **178374-58-8P**, Bis(2-butoxy-2-ethoxyethyl) 5-sulfoisophthalate  
**241147-16-0P**, Dipentyl 5-sulfoisophthalate **241147-18-2P**, Bis(2-butoxyethyl) 5-sulfoisophthalate  
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(dopants for improving solution processibility of **polyaniline**)  
IT 25233-30-1, **Polyaniline**  
RL: PRP (Properties)  
(esters of sulfoisophthalic acid as dopants for improving solution processibility of)  
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

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  - (23) Zheng, W; Makromol Chem Phys 1995, V196, P2443 HCAPLUS
  - (24) Zuppiroli, L; Phys Rev B 1994, V50, P5196 HCAPLUS
- IT 178374-58-8P, Bis(2-butoxy-2-ethoxyethyl) 5-sulfoisophthalate  
 241147-16-0P, Dipentyl 5-sulfoisophthalate 241147-18-2P,  
 Bis(2-butoxyethyl) 5-sulfoisophthalate  
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (dopants for improving solution processability of polyaniline)
- RN 178374-58-8 HCAPLUS
- CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl]  
 ester (9CI) (CA INDEX NAME)

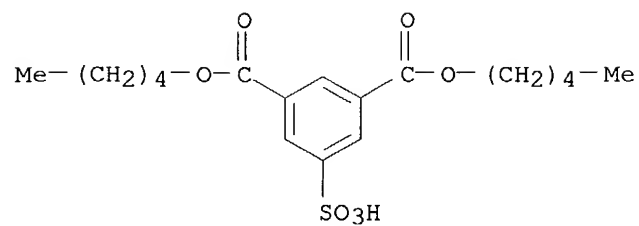
PAGE 1-A



PAGE 1-B

—CH<sub>2</sub>—OBu-n

- RN 241147-16-0 HCAPLUS
- CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dipentyl ester (9CI) (CA  
 INDEX NAME)



RN 241147-18-2 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis(2-butoxyethyl) ester (9CI)  
(CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L48 ANSWER 16 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:240761 HCAPLUS

DN 132:266599

ED Entered STN: 14 Apr 2000

TI Anticorrosive primer composition

IN Uno, Keiichi; Yutani, Yuji; Tachimori, Hiroshi; Kamo, Hiroaki; Hotta, Yasunari; Togawa, Keiichiro

PA Toyo Boseki Kabushiki Kaisha, Japan

SO Eur. Pat. Appl., 20 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C09D005-08

CC 42-12 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 992548	A2	20000412	EP 1999-119907	19991008
	EP 992548	A3	20010912		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2000119599	A2	20000425	JP 1998-288365	19981009
	JP 2001064587	A2	20010313	JP 1999-237487	19990824
PRAI	JP 1998-288365	A	19981009		
	JP 1999-237487	A	19990824		
AB	A primer coating composition comprises composite structural particles of an elec. conductive polymer and an inorg. oxide with stable dispersion in any aqueous, organic solvent, and mixed solvent systems without any dopant or surfactant. Thus, a primer composition was prepared from doped <b>polyaniline</b> (prepared from diester, obtained from di-Me 5-sulfoisophthalate Na salt and diethylene glycol monobutyl ether 8.34, H2O 80, H2SO4 2.022, aniline 1.863, ammonium peroxosulfate 4.564 g dissolved in 20 g H2O) 2.5, Vylon resin RV-290 8.3, Sumimal M40S 1.7, orthophosphoric acid 0.4, TiO2 12.5, and cyclohexanone 74.6 parts.				
ST	conductive polymer inorg oxide coating anticorrosion; composite inorg oxide stable dispersion coating anticorrosion; <b>polyaniline</b> doped phosphoric acid Sumimal Vylon coating				
IT	Silica gel, uses				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(Sylsia 350; primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)				
IT	Coating materials				
	Primers (paints)				
	(anticorrosive; primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)				
IT	Particles				
	(composites; primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)				
IT	Polymerization				
	(oxidative; primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)				
IT	Composites				
	(particles; primer coating composition containing elec. conductive polymer and				

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

inorg. oxide on steel for anticorrosion)

IT Conducting polymers  
Corrosion inhibitors  
Crosslinking agents  
Polymerization  
(primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

IT Phenolic resins, uses  
Phosphorus acids  
Polyvinyl butyrals  
Sulfonic acids, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

IT Metals, miscellaneous  
RL: MSC (Miscellaneous)  
(primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

IT Epoxy resins, uses  
Oxides (inorganic), uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

IT Polyesters, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(topcoating; primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

IT Coating materials  
(topcoats, polyesters; primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

IT 7631-86-9, Snowtex, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(Snowtex colloidal; primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

IT 25233-30-1DP, **Polyaniline**, doped 138511-66-7P 263361-12-2P,  
Vylon RV-290-Sumimal M40S copolymer 263361-13-3P 263361-14-4P  
263361-15-5P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

IT 7664-38-2, Orthophosphoric acid, uses 10343-62-1, Metaphosphoric acid  
13463-67-7, Titanium oxide, uses 29196-72-3, Aluminum tripolyphosphate  
RL: MOA (Modifier or additive use); USES (Uses)  
(primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

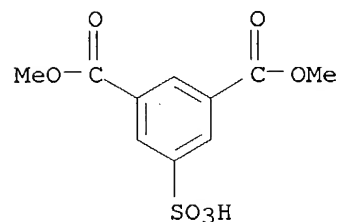
IT 12597-69-2, Steel, miscellaneous  
 RL: MSC (Miscellaneous)  
 (primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

IT 112-34-5, Diethylene glycol monobutyl ether **3965-55-7**, Dimethyl 5-sulfoisophthalate sodium salt 7664-93-9, Sulfuric acid, reactions 7727-54-0 **176236-30-9**  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

IT 138511-63-4P 247225-57-6P, DA-350-dimethyl terephthalate-dimethyl isophthalate-5-sulfoisophthalic acid sodium salt-ethylene glycol copolymer 263361-11-1P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (topcoats; primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

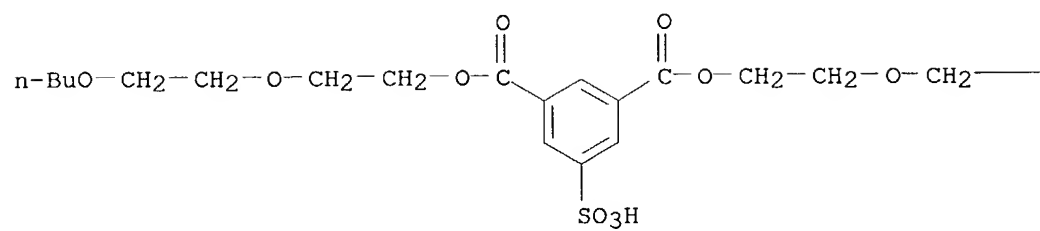
IT **3965-55-7**, Dimethyl 5-sulfoisophthalate sodium salt **176236-30-9**  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (primer coating composition containing elec. conductive polymer and inorg. oxide on steel for anticorrosion)

RN 3965-55-7 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt (9CI) (CA INDEX NAME)



RN 176236-30-9 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl] ester, sodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● Na

PAGE 1-B

— $\text{CH}_2$ — $\text{OBu-n}$

L48 ANSWER 17 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:142773 HCAPLUS

DN 132:294519

ED Entered STN: 03 Mar 2000

TI Highly Conducting and Solution-Processable **Polyaniline** Obtained via Protonation with a New Sulfonic Acid Containing Plasticizing Functional Groups

AU Olinga, Thomas E.; Fraysse, Jerome; Travers, Jean Pierre; Dufresne, Alain; Pron, Adam

CS Laboratoire des Metaux Synthetiques, UMR 5819 DRFMC CEA Grenoble, Grenoble, 38054, Fr.

SO Macromolecules (2000), 33(6), 2107-2113  
CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

LA English

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 76

AB New solution processing systems were studied to obtain highly conductive **polyaniline** (PANI) films with good mech. properties and its conducting blends with poly(Me methacrylate). A new dopant, namely, 1,2-benzenedicarboxylic acid, 4-sulfo, 1,2-di(2-ethylhexyl) ester (DEHEPSA), was studied as a protonating agent. The use of this dopant together with dichloroacetic acid (DCAA) or difluorochloroacetic acid (DFCAA) as solvents leads to films showing conductivities of 180 and 100 S/cm, resp. Films cast from DCAA are metallic in character down to 220° K. Since the protonation agent used exhibits doping as well as plasticizing properties, the resulting **polyaniline** films, in addition to high conductivity, show excellent flexibility and much lower glass transition temperature, Tg, (280° K), compared to **polyaniline** doped with other protonating agents, also, the same processing system can be used for the fabrication of **polyaniline**-poly(Me methacrylate) blends with low percolation threshold («1% of PANI). Upon casting, the overwhelming majority of the solvent can be efficiently removed from the polymer matrix, where the remaining residual solvent is strongly bound to the polymer matrix. For this reason, the resulting blends do not show the disadvantages of the blends cast from m-cresol which release the residual solvent upon aging.

ST **polyaniline** doped elec conducting film; PMMA blend elec conducting film; phthalosulfonate diethylhexyl dopant **polyaniline**; mech loss **polyaniline** conducting film

IT **Polyanilines**

RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(diethylhexyl phthalosulfonate-doped; solution-processable **polyaniline** obtained via protonation with a new sulfonic acid containing plasticizing functional groups for films with high conductivity

and

good mech. properties)

IT Films

Films

(elec. conductive; solution-processable **polyaniline** obtained via protonation with a new sulfonic acid containing plasticizing functional groups for films with high conductivity and good mech. properties)

IT Electric conductors

Electric conductors

(films; solution-processable **polyaniline** obtained via protonation with a new sulfonic acid containing plasticizing functional



groups for films with high conductivity and good mech. properties)

IT Electric conductivity  
(of solution-processable **polyaniline** (blended) films)

IT Mechanical loss  
(of solution-processable **polyaniline** films)

IT Polymer blends  
RL: PRP (Properties)  
(poly(aniline)-PMMA; solution-processable **polyaniline** obtained via protonation with a new sulfonic acid containing plasticizing functional groups for films with high conductivity and good mech. properties)

IT Conducting polymers  
(solution-processable **polyaniline** obtained via protonation with a new sulfonic acid containing plasticizing functional groups for films with high conductivity and good mech. properties)

IT 25233-30-1P, Poly(aniline)  
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(diethylhexyl phthalosulfonate-doped; solution-processable **polyaniline** obtained via protonation with a new sulfonic acid containing plasticizing functional groups for films with high conductivity

and  
good mech. properties)

IT **264192-28-1P**  
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(dopant; solution-processable **polyaniline** obtained via protonation with a new sulfonic acid containing plasticizing functional groups for films with high conductivity and good mech. properties)

IT 9011-14-7, Poly(methyl methacrylate)  
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(poly(aniline) blends; solution-processable **polyaniline** obtained via protonation with a new sulfonic acid containing plasticizing functional groups for films with high conductivity and good mech. properties)

IT 89-08-7, 4-Sulfophthalic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with ethylhexanol; preparation of plasticizing dopant for poly(aniline))

IT 104-76-7, 2-Ethyl-1-hexanol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with sulfophthalic acid; preparation of plasticizing dopant for poly(aniline))

IT 79-43-6, Dichloroacetic acid, uses 354-19-8, Dichlorofluoroacetic acid  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvent; solution-processable **polyaniline** obtained via protonation with a new sulfonic acid containing plasticizing functional groups for films with high conductivity and good mech. properties)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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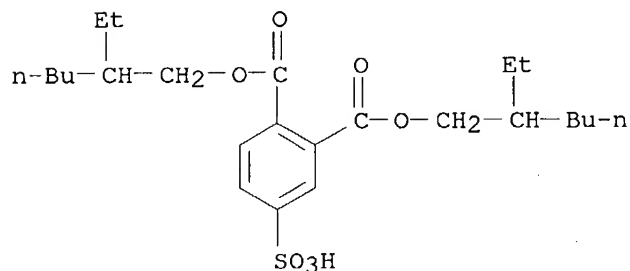
IT 264192-28-1P

RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(dopant; solution-processable **polyaniline** obtained via protonation with a new sulfonic acid containing plasticizing functional groups for films with high conductivity and good mech. properties)

RN 264192-28-1 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4-sulfo-, 1,2-bis(2-ethylhexyl) ester (9CI)  
(CA INDEX NAME)



L48 ANSWER 18 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:697921 HCAPLUS  
 DN 131:300437  
 ED Entered STN: 02 Nov 1999  
 TI Electrically conductive laminates with good antistatic property at low humidity  
 IN Abe, Kazuhiro; Ohase, Shigeji; Kamo, Hiroaki  
 PA Toyobo Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM B32B027-30  
 ICS B32B027-18  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11300903	A2	19991102	JP 1998-129602	19980422
PRAI	JP 1998-129602		19980422		

AB The laminates, useful for magnetic tapes, trays, carrier tapes, packages for electronic appliances, etc., comprise inorg. and/or organic substrates laminated with elec. conductive layer composed of  $\pi$ -conjugated elec. conductive polymers and modified acrylic polymers at  $\geq 1$  side.

Thus, a monoaxially stretched PET film containing 4000 ppm 0.5- $\mu$ m CaCO<sub>3</sub> was coated with a composition containing an acrylic polyester graft copolymer (prepared

from di-Me isophthalate-dimethyl terephthalate-ethylene glycol-fumaric acid-3-methyl-1,5-pentanediol copolymer, styrene, Me methacrylate, 2-hydroxyethyl acrylate, and acrylamidomethylpropanesulfonic acid), 2-aminoanisoole-4-sulfonic acid homopolymer, and Emulgen 810 and transverse stretched to give a biaxially stretched film with high transparency of the coating layer under keeping the characteristics of the substrate film, e.g., good resistance to water, solvents, and heat.

ST elec conductor laminate sulfonated **polyaniline** antistatic coating; acrylic graft polyester antistatic coating laminate; polyester film elec conductor coating; water solvent heat resistance antistatic coating

IT Polyesters, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acrylic, graft; elec. conductive laminates with good antistatic property at low humidity)

IT Polyurethanes, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acrylic-polyester-, graft; elec. conductive laminates with good antistatic property at low humidity)

IT Polyesters, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acrylic-polyurethane-, graft; elec. conductive laminates with good antistatic property at low humidity)

IT Epoxy resins, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acrylic; elec. conductive laminates with good antistatic property at

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

- low humidity)
- IT Coating materials  
(antistatic; elec. conductive laminates with good antistatic property at low humidity)
- IT Conducting polymers  
(elec. conductive coating containing; elec. conductive laminates with good antistatic property at low humidity)
- IT **Polyanilines**  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(elec. conductive laminates with good antistatic property at low humidity)
- IT Laminated plastics, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(elec. conductive laminates with good antistatic property at low humidity)
- IT Coating materials  
(elec. conductive; elec. conductive laminates with good antistatic property at low humidity)
- IT Polyesters, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(substrate; elec. conductive laminates with good antistatic property at low humidity)
- IT Polyesters, uses  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(sulfo-containing, acrylic polymer-grafted; elec. conductive laminates with good antistatic property at low humidity)
- IT 167860-86-8P, 2-Aminoanisole-4-sulfonic acid homopolymer  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(conductive coating containing; elec. conductive laminates with good antistatic property at low humidity)
- IT 247098-14-2P 247098-15-3P 247098-16-4P **247116-00-3P**, Butyl acrylate-dimethyl isophthalate-dimethyl 5-sodiosulfoisophthalate-dimethyl terephthalate-ethylene glycol-fumaric acid-glycerin monomethacrylate-methacrylic acid-methyl methacrylate-3-methyl-1,5-pentanediol-sodium styrenesulfonate-styrene graft copolymer **247116-02-5P**  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(elec. conductive laminates with good antistatic property at low humidity)
- IT 9036-19-5, Emulgen 810  
RL: MOA (Modifier or additive use); USES (Uses)  
(elec. conductive laminates with good antistatic property at low humidity)
- IT 25038-59-9, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(substrate; elec. conductive laminates with good antistatic property at low humidity)
- IT **247116-00-3P**, Butyl acrylate-dimethyl isophthalate-dimethyl 5-sodiosulfoisophthalate-dimethyl terephthalate-ethylene glycol-fumaric acid-glycerin monomethacrylate-methacrylic acid-methyl methacrylate-3-methyl-1,5-pentanediol-sodium styrenesulfonate-styrene graft copolymer **247116-02-5P**

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(elec. conductive laminates with good antistatic property at low humidity)

RN 247116-00-3 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt, polymer with (2E)-2-butenedioic acid, butyl 2-propenoate, dimethyl 1,3-benzenedicarboxylate, dimethyl 1,4-benzenedicarboxylate, 1,2-ethanediol, ethenylbenzene, methyl 2-methyl-2-propenoate, 3-methyl-1,5-pentanediol, 2-methyl-2-propenoic acid, 1,2,3-propanetriol mono(2-methyl-2-propenoate) and sodium ethenylbenzenesulfonate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 27457-28-9

CMF C8 H8 O3 S . Na

CCI IDS



D1-CH=CH<sub>2</sub>

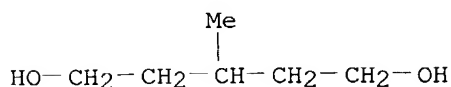
D1-SO<sub>3</sub>H

● Na

CM 2

CRN 4457-71-0

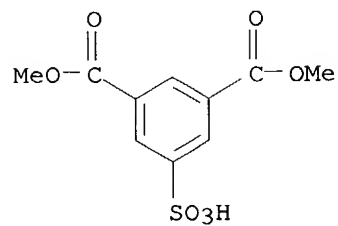
CMF C6 H14 O2



CM 3

CRN 3965-55-7

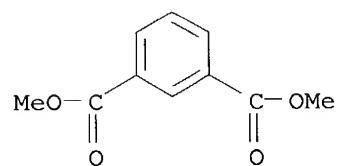
CMF C10 H10 O7 S . Na



● Na

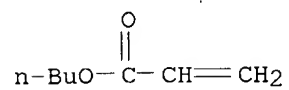
CM 4

CRN 1459-93-4  
CMF C10 H10 O4



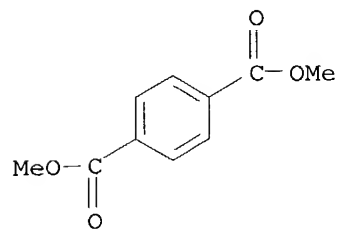
CM 5

CRN 141-32-2  
CMF C7 H12 O2



CM 6

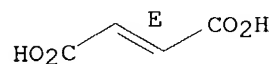
CRN 120-61-6  
CMF C10 H10 O4



CM 7

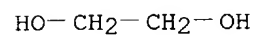
CRN 110-17-8  
CMF C4 H4 O4

Double bond geometry as shown.



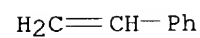
CM 8

CRN 107-21-1  
CMF C2 H6 O2



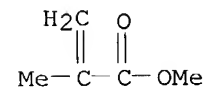
CM 9

CRN 100-42-5  
CMF C8 H8



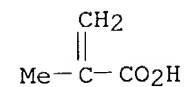
CM 10

CRN 80-62-6  
CMF C5 H8 O2



CM 11

CRN 79-41-4  
CMF C4 H6 O2

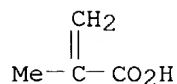


CM 12

CRN 50853-28-6  
CMF C7 H12 O4  
CCI IDS

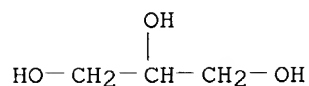
CM 13

CRN 79-41-4  
CMF C4 H6 O2



CM 14

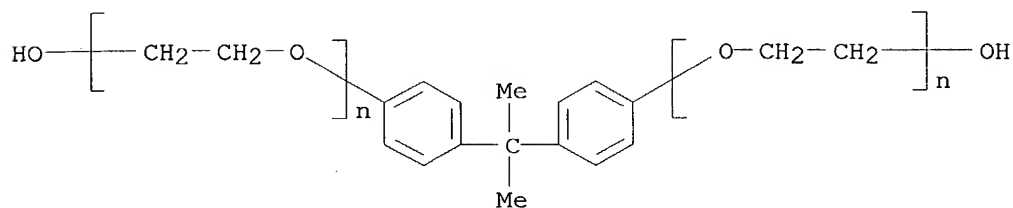
CRN 56-81-5  
CMF C3 H8 O3



RN 247116-02-5 HCAPLUS  
CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt, polymer with (2E)-2-butenedioic acid, dimethyl 1,3-benzenedicarboxylate, dimethyl 1,4-benzenedicarboxylate, 1,2-ethanediol, ethenylbenzene,  $\alpha,\alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -hydroxypoly(oxy-1,2-ethanediyl)], methyl 2-methyl-2-propenoate, 2-methyl-2-propenoic acid, 1,2,3-propanetriol mono(2-methyl-2-propenoate) and sodium ethenylbenzenesulfonate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 32492-61-8  
CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C15 H16 O2  
CCI PMS



CM 2

CRN 27457-28-9



CMF C8 H8 O3 S . Na  
CCI IDS



D1-CH=CH<sub>2</sub>

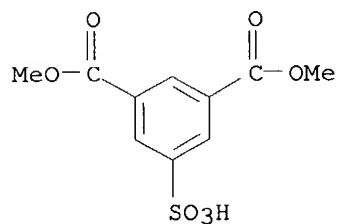
D1-SO<sub>3</sub>H

● Na

CM 3

CRN 3965-55-7

CMF C10 H10 O7 S . Na

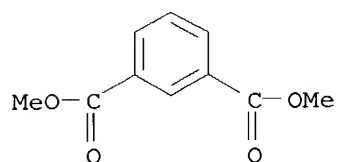


● Na

CM 4

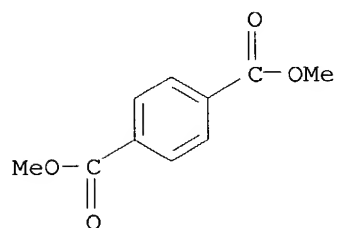
CRN 1459-93-4

CMF C10 H10 O4



CM 5

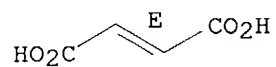
CRN 120-61-6  
CMF C10 H10 O4



CM 6

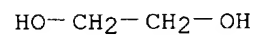
CRN 110-17-8  
CMF C4 H4 O4

Double bond geometry as shown.



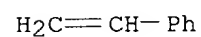
CM 7

CRN 107-21-1  
CMF C2 H6 O2



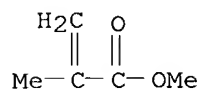
CM 8

CRN 100-42-5  
CMF C8 H8



CM 9

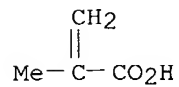
CRN 80-62-6  
CMF C5 H8 O2



CM 10

CRN 79-41-4

CMF C4 H6 O2



CM 11

CRN 50853-28-6

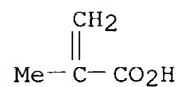
CMF C7 H12 O4

CCI IDS

CM 12

CRN 79-41-4

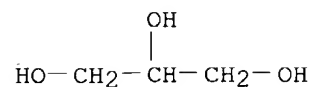
CMF C4 H6 O2



CM 13

CRN 56-81-5

CMF C3 H8 O3



L48 ANSWER 19 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:459589 HCAPLUS  
 DN 131:200644  
 ED Entered STN: 28 Jul 1999  
 TI Spectroscopic studies of **polyaniline** protonated with esters of  
 5-sulfoisophthalic acid  
 AU Kulszewicz-Bajer, I.; Zagorska, M.; Bany, A.; Lukasik, L.  
 CS Faculty of Chemistry, Warsaw University of Technology, Warsaw, 00-664,  
 Pol.  
 SO Synthetic Metals (1999), 101(1-3), 713-714  
 CODEN: SYMEDZ; ISSN: 0379-6779  
 PB Elsevier Science S.A.  
 DT Journal  
 LA English  
 CC 37-5 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 73  
 AB **Polyaniline** (PANI) has been doped with a new class of  
 protonating agents, namely diesters of 5-sulfoisophthalic acid. The  
 incorporation of this type of dopant results in enhanced solubility of PANI  
 salts. Depending on the protonation medium, different types of  
 UV-visible-near IR spectra are obtained.  
 ST **polyaniline** sulfoisophthalate ester doping spectra; protonation  
**polyaniline** sulfoisophthalate diester  
 IT IR spectra  
 (near-IR; of **polyaniline** doped with sulfoisophthalic acid  
 diesters)  
 IT Electric conductivity  
 UV and visible spectra  
 (of **polyaniline** doped with sulfoisophthalic acid diesters)  
 IT Protonation  
 (of **polyaniline** with sulfoisophthalic acid diesters)  
 IT Conducting polymers  
 Dopants  
 (spectra of **polyaniline** doped with sulfoisophthalic acid  
 diesters)  
 IT **Polyanilines**  
 RL: PRP (Properties)  
 (spectra of **polyaniline** doped with sulfoisophthalic acid  
 diesters)  
 IT 178374-58-8 241147-16-0 241147-17-1  
 241147-18-2  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (dopant/protonation agent; spectra of **polyaniline** doped with  
 sulfoisophthalic acid diesters)  
 IT 22326-31-4D, 5-Sulfoisophthalic acid, esters with Rokanol 87521-29-7D,  
 Rokanol, esters with 5-sulfoisophthalic acid  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (dopants/protonation agents; spectra of **polyaniline** doped  
 with)  
 IT 25233-30-1, **Polyaniline**  
 RL: PRP (Properties)  
 (spectra of **polyaniline** doped with sulfoisophthalic acid  
 diesters)  
 RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Cao, Y; Synth Met 1992, V48, P91 HCAPLUS  
 (2) Cao, Y; Synth Met 1995, V69, P187 HCAPLUS  
 IT 178374-58-8 241147-16-0 241147-17-1

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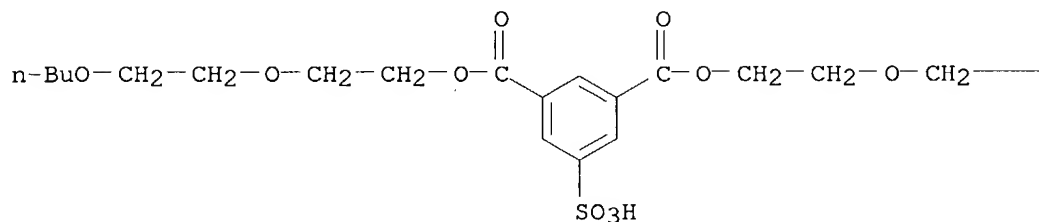
**241147-18-2**

RL: MOA (Modifier or additive use); USES (Uses)  
(dopant/protonation agent; spectra of **polyaniline** doped with sulfoisophthalic acid diesters)

RN 178374-58-8 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A

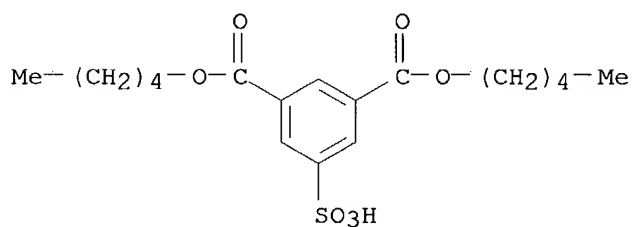


PAGE 1-B

—CH<sub>2</sub>—OBu-n

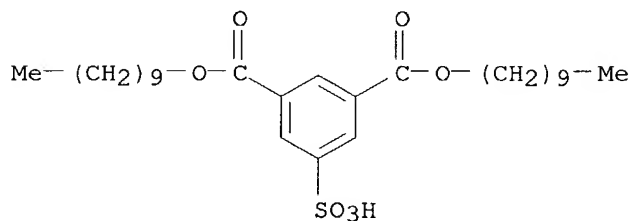
RN 241147-16-0 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dipentyl ester (9CI) (CA INDEX NAME)



RN 241147-17-1 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-didecyl ester (9CI) (CA INDEX NAME)



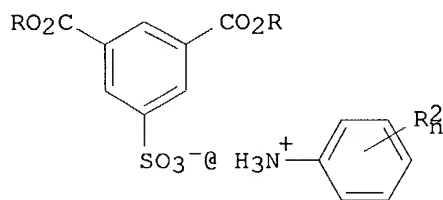
RN 241147-18-2 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis(2-butoxyethyl) ester (9CI)  
(CA INDEX NAME)

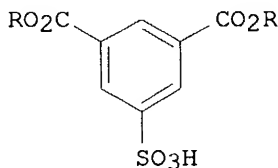
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L48 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:378461 HCAPLUS  
 DN 131:45268  
 ED Entered STN: 18 Jun 1999  
 TI Manufacture of sulfoanilinium isophthalic acid diesters for preparation of doped **polyanilines**  
 IN Ogata, Eiji; Yanase, Norio; Sakamoto, Shigeru  
 PA Konishi Kagaku Kogyo Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C07C309-58  
 ICS C07C303-32; C07C319-20; C07C323-12  
 CC 35-7 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 25  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11158139	A2	19990615	JP 1997-324862	19971126
PRAI	JP 1997-324862		19971126		
OS	MARPAT 131:45268				
GI					



I



II

AB Title compds. I (R = R<sub>1</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>; R<sub>1</sub> = H, C1-15 alkyl, alkenyl, alkylthioalkyl, aryl, alkylaryl, etc.; R<sub>2</sub> = C1-4 alkyl, alkoxy; n = 0-2) are prepared by esterification of 5-sulfoisophthalic acid with ROH in water-immiscible organic solvents and neutralization of 5-sulfoisophthalic acid diesters II with H<sub>2</sub>NC<sub>6</sub>H<sub>5</sub>-nR<sub>2</sub>n. Diethylene glycol monobutyl ether was reacted with 5-sulfoisophthalic acid in PhCl at 80-86° under 130-210 mm Hg for 8 h to give 93% bis(butoxyethoxyethyl) 5-sulfoisophthalate which was neutralized with PhNH<sub>2</sub> to give 84% bis(butoxyethoxyethyl) 5-sulfoisophthalate PhNH<sub>2</sub> salt (III). **Polyaniline** doped with bis(butoxyethoxyethyl) 5-sulfoisophthalate was prepared from III.

ST sulfoisophthalate aniline salt manuf doped **polyaniline**;  
 sulfoisophthalic acid esterification alc; aniline neutralization  
 sulfoisophthalic acid diester

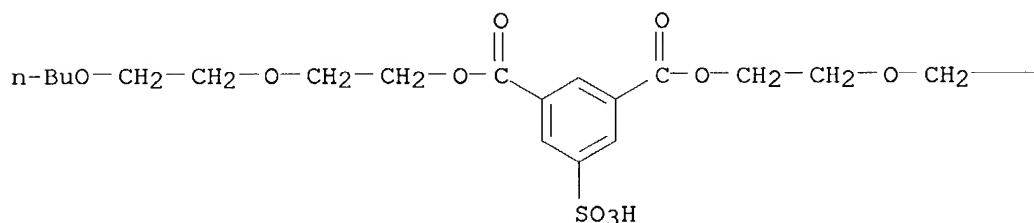
IT **Polyanilines**  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (bis(butoxyethoxyethyl) 5-sulfoisophthalate-doped; preparation of  
 sulfoanilinium isophthalic acid diesters for preparation of doped  
**polyanilines**)

IT Conducting polymers  
 (preparation of sulfoanilinium isophthalic acid diesters for preparation of  
 doped

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**polyanilines)**  
 IT 25233-30-1P, **Polyaniline**  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (bis(butoxyethoxyethyl) 5-sulfoisophthalate-doped; preparation of  
 sulfoanilinium isophthalic acid diesters for preparation of doped  
**polyanilines)**  
 IT 178374-58-8P 227621-21-8P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation of sulfoanilinium isophthalic acid diesters for preparation of  
 doped  
**polyanilines)**  
 IT 62-53-3, Benzenamine, reactions 112-34-5, Diethylene glycol monobutyl  
 ether 22326-31-4, 5-Sulfoisophthalic acid  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of sulfoanilinium isophthalic acid diesters for preparation of  
 doped  
**polyanilines)**  
 IT 178374-58-8P 227621-21-8P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation of sulfoanilinium isophthalic acid diesters for preparation of  
 doped  
**polyanilines)**  
 RN 178374-58-8 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl]  
 ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

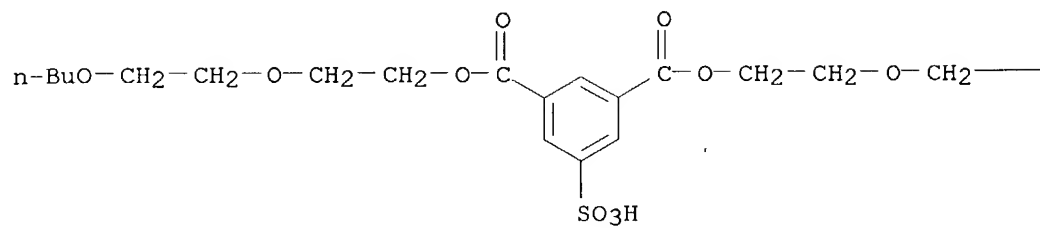
—CH<sub>2</sub>—OBu-n

RN 227621-21-8 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl]  
 ester, compd. with benzenamine (1:1) (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 178374-58-8  
 CMF C24 H38 O11 S

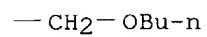
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



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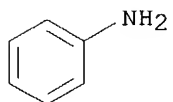
PAGE 1-B



CM 2

CRN 62-53-3

CMF C6 H7 N



L48 ANSWER 21 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:365687 HCAPLUS  
 DN 131:31807  
 ED Entered STN: 14 Jun 1999  
 TI Preparation of 5-sulfoisophthalic acid diesters and their salts  
 IN Ogata, Eiji; Yanase, Norio; Sakamoto, Shigeru  
 PA Konishi Kagaku Kogyo Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C07C309-58  
 ICS C07C303-22; C07C319-20; C07C323-12  
 CC 25-18 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
 Section cross-reference(s): 37, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11152261	A2	19990608	JP 1997-319858	19971120
PRAI	JP 1997-319858		19971120		
OS	MARPAT 131:31807				

AB 5-Sulfoisophthalic acid (I) diesters, especially useful as dopants for **polyaniline**, are prepared by azeotropic dehydration-esterification of I with ROH [R = R1O(CH2)2O(CH2)2; R1 = H, C1-15 alkyl, alkenyl, alkylthioalkyl, aryl, alkylaryl, arylalkyl, alkoxyalkyl, aryloxyalkyl] in the presence of H2O-nonmiscible organic solvents. I diester salts are prepared by neutralization of the I diesters with NH3 or (hydrogen) carbonate salts of alkali metals or alkaline earth metals. A solution containing Bu diglycol, I, and

PhCl was distilled at 80-86° under 130-210 mmHg in a reaction system while fractionating the distillate in H2O/PhCl and returning the PhCl phase into the reaction system for 8 h to give a reaction mixture [I bis(diethylene glycol monobutyl) ester content 93%, monoester content 2%], which was neutralized with Na2CO3 and distilled to give an aqueous solution

showing

5-sodiumsulfoisophthalic acid bis(diethylene glycol monobutyl) ester content 87% and monoester content 6%. PhCl was collected by fractionation of the distillate with recovery rate 99%.

ST sulfoisophthalate diester prepn azeotropic dehydration; esterification sulfoisophthalic acid azeotropic dehydration; chlorobenzene solvent azeotropic dehydration sulfoisophthalate esterification; diglycol butyl sulfoisophthalate diester prepn; **polyaniline** dopant sodiumsulfoisophthalate diester prepn

IT Dehydration reaction

Esterification

(azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

IT **Polyanilines**

RL: POF (Polymer in formulation); USES (Uses)

(azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

IT Distillation

(azeotropic; azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

IT Alcohols, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(ether; azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

IT Solvents  
(organic; azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

IT **176236-30-9P 178374-58-8P**  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

IT 25233-30-1, **Polyaniline**  
RL: POF (Polymer in formulation); USES (Uses)  
(azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

IT 112-34-5, Butyl diglycol 22326-31-4, 5-Sulfoisophthalic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

IT 497-19-8, Sodium carbonate, reactions 7664-41-7, Ammonia, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(in salt formation; azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

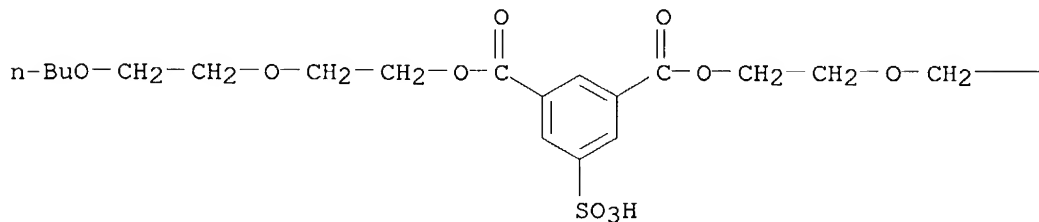
IT 95-47-6, o-Xylene, uses 100-41-4, Ethylbenzene, uses 106-42-3, p-Xylene, uses 108-38-3, uses 108-90-7, Chlorobenzene, uses  
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
(solvent; azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

IT **176236-30-9P 178374-58-8P**  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(azeotropic dehydration-esterification in preparation of 5-sulfoisophthalic acid diesters as dopants for **polyaniline**)

RN 176236-30-9 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl] ester, sodium salt (9CI) (CA INDEX NAME)

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● Na

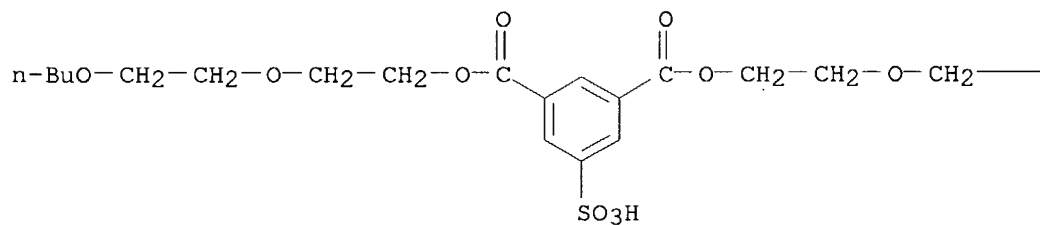
PAGE 1-B

—CH<sub>2</sub>—OBu-n

RN 178374-58-8 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl]  
ester (9CI) (CA INDEX NAME)

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PAGE 1-B

—CH<sub>2</sub>—OBu-n

L48 ANSWER 22 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:70215 HCAPLUS  
 DN 130:140599  
 ED Entered STN: 02 Feb 1999  
 TI Anticorrosive coating of **polyaniline**  
 IN Yutani, Takeshi; Tatemori, Hiroshi; Tokai, Masaya; Uno, Keiichi  
 PA Toyobo Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C09D179-00  
 ICS C09D005-08; C09D007-12; C08K003-32; C08L079-00  
 CC 42-10 (Coatings, Inks, and Related Products)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11021505	A2	19990126	JP 1997-181011	19970707
PRAI	JP 1997-181011		19970707		

AB An anticorrosive coating from **polyaniline** or its derivs.  
 contains phosphoric acid additive. Thus, **polyaniline** (number mol.  
 weight 27,000) was prepared with ammonium persulfate and doped with  
 1,3-bis[2-(2-butoxyethoxy)ethyl] 5-sulfo-1,3-benzenedicarboxylate, 1.5  
 parts of which was mixed with epoxy resin (Epikote 1001) 2.6, curing agent  
 BTDA 0.9, phosphoric acid 0.6 and THF 94.4 parts for a primer coating on  
 steel plate, showing good peel strength.

ST phosphoric acid anticorrosive **polyaniline** coating

IT **Polyanilines**

RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)

(anticorrosive coating of **polyaniline** with phosphoric acid)

IT Coating materials

(anticorrosive; anticorrosive coating of **polyaniline** with  
 phosphoric acid)

IT Epoxy resins, uses

Polyesters, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)

(in coating; anticorrosive coating of **polyaniline** with  
 phosphoric acid)

IT 7664-38-2, Phosphoric acid, uses

RL: MOA (Modifier or additive use); USES (Uses)

(anticorrosive coating of **polyaniline** with phosphoric acid)

IT 25233-30-1, **Polyaniline**

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(anticorrosive coating of **polyaniline** with phosphoric acid)

IT **178374-58-8**

RL: MOA (Modifier or additive use); USES (Uses)

(doping agent; anticorrosive coating of **polyaniline** with  
 phosphoric acid)

IT 25068-38-6, Epikote 1001 109191-29-9, Vylon RV 290

RL: POF (Polymer in formulation); TEM (Technical or engineered material  
 use); USES (Uses)

(in coating; anticorrosive coating of **polyaniline** with  
 phosphoric acid)

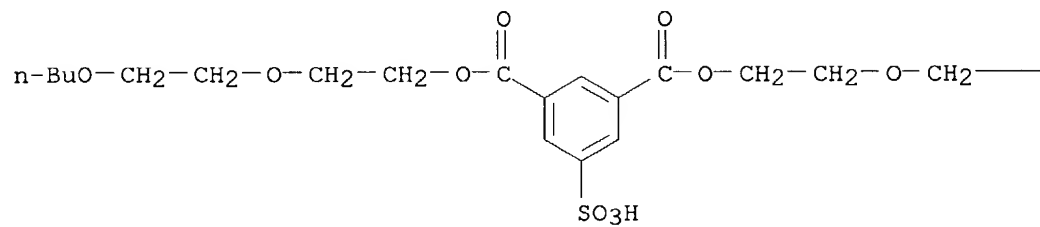
IT **178374-58-8**

RL: MOA (Modifier or additive use); USES (Uses)

(doping agent; anticorrosive coating of **polyaniline** with

phosphoric acid)  
RN 178374-58-8 HCAPLUS  
CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl]  
ester (9CI) (CA INDEX NAME)

PAGE 1-A



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—CH<sub>2</sub>—OBu-n

L48 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:685352 HCAPLUS

DN 130:19711

ED Entered STN: 29 Oct 1998

TI Electroconductive **polyaniline**-based electrolyte, its manufacture, and solid electrolytic capacitor using the same

IN Tatemori, Hiroshi; Yutani, Yuji; Tokai, Masaya; Uno, Keiichi

PA Toyobo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01G009-028

ICS H01G009-00

CC 76-10 (Electric Phenomena)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10284350	A2	19981023	JP 1997-86621	19970404
PRAI	JP 1997-86621		19970404		
OS	MARPAT 130:19711				

AB The electrolyte comprises a **polyaniline** (derivative) composition containing a protonic acid as a dopant, shows elec. conductivity  $\geq 10^{-9}$  S/cm, is soluble in a doped state, and satisfies relationship  $Md/Pn$  350-2000 [ $Md$  = mol. weight of dopant;  $Pn$  = number of protonic acid groups of  $pK_a$  (/mol.)  $\leq 4.0$ ]. The dopant may be represented by  $C_6R_1'k'(COCH_2CH_2OCH_2CH_2OR_1)kSO_3H$  ( $R_1 = H$ ,  $C_1-15$  substituents;  $R_1' = H$ , substituents;  $k = 1-5$ ;  $k' = 0-4$ ;  $k + k' = 5$ ) or  $R_2O(CH_2CH_2O)_pSO_3H$  ( $R_2 = C_5-20$  substituents;  $p = 1-5$ ). The electrolyte is manufactured by applying a solution containing the **polyaniline** composition

on

a oxide-coated metal substrate and drying. A solid electrolytic capacitor using the electrolyte is also claimed.

ST **polyaniline** electrolyte solvent sol capacitor manuf;  
benzenesulfonic acid doped **polyaniline** electrolyte;  
dodecyltrisethoxysulfonic acid doped **polyaniline** polyelectrolyte capacitor

IT Acids, uses

RL: MOA (Modifier or additive use); USES (Uses)  
(dopants; solvent-soluble doped **polyaniline** electrolyte for manufacture of solid electrolytic capacitor by coating process)

IT Electrolytic capacitors

Polymer electrolytes  
(solvent-soluble doped **polyaniline** electrolyte for manufacture of solid electrolytic capacitor by coating process)

IT **Polyanilines**

RL: DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process); USES (Uses)

(solvent-soluble doped **polyaniline** electrolyte for manufacture of solid electrolytic capacitor by coating process)

IT 13150-00-0P **178374-58-8P**

RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(dopant; solvent-soluble doped **polyaniline** electrolyte for manufacture of solid electrolytic capacitor by coating process)

IT 112-34-5, Diethylene glycol mono-n-butyl ether **3965-55-7**,Dimethyl 5-sodiosulfoisophthalate **176236-30-9**,

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

5-Sodiosulfoisophthalic acid bis(diethylene glycol monobutyl ether) ester  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (in preparation of protonic acid with good compatibility to solvents for  
 polyelectrolyte dopant)

IT 25233-30-1P, **Polyaniline**

RL: DEV (Device component use); IMF (Industrial manufacture); PEP  
 (Physical, engineering or chemical process); PREP (Preparation); PROC  
 (Process); USES (Uses)

(solvent-soluble doped **polyaniline** electrolyte for manufacture of  
 solid electrolytic capacitor by coating process)

IT 178374-58-8P

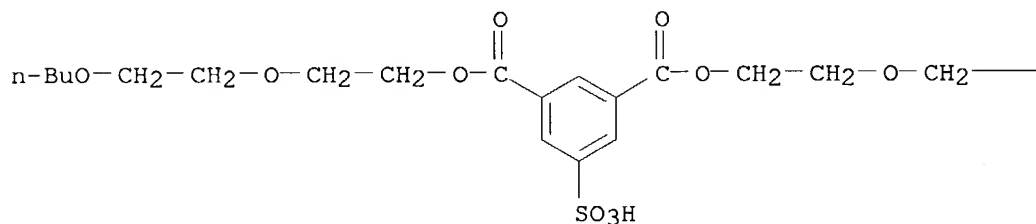
RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP  
 (Preparation); USES (Uses)

(dopant; solvent-soluble doped **polyaniline** electrolyte for  
 manufacture of solid electrolytic capacitor by coating process)

RN 178374-58-8 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl]  
 ester (9CI) (CA INDEX NAME)

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--CH2--OBu-n

IT 3965-55-7, Dimethyl 5-sodiosulfoisophthalate 176236-30-9

, 5-Sodiosulfoisophthalic acid bis(diethylene glycol monobutyl ether)  
 ester

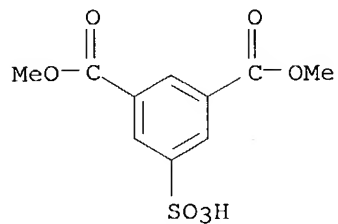
RL: RCT (Reactant); RACT (Reactant or reagent)

(in preparation of protonic acid with good compatibility to solvents for  
 polyelectrolyte dopant)

RN 3965-55-7 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt  
 (9CI) (CA INDEX NAME)



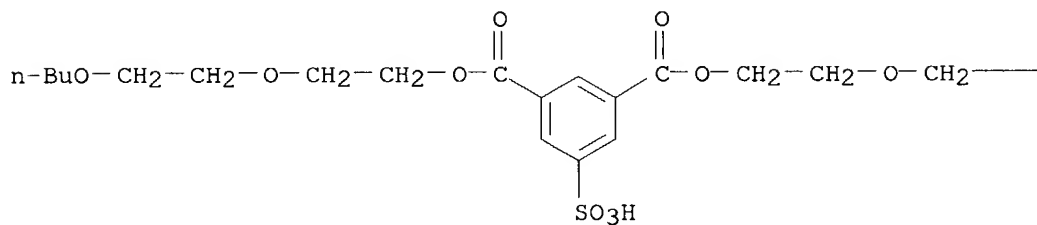


● Na

RN 176236-30-9 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl]  
ester, sodium salt (9CI) (CA INDEX NAME)

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● Na

PAGE 1-B

—CH<sub>2</sub>—OBu—n

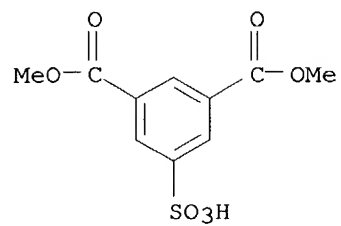
L48 ANSWER 24 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:694146 HCAPLUS  
 DN 125:312338  
 ED Entered STN: 25 Nov 1996  
 TI Silver halide color photographic films having improved antistatic coatings.  
 IN Tachibana, Noriki; Kotani, Chiaki; Okamura, Shinichi; Morita, Seiwa  
 PA Konishiroku Photo Ind, Japan  
 SO Jpn. Kokai Tokkyo Koho, 77 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G03C001-85  
 ICS G03C001-37; G03C001-89  
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 42

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08211555	A2	19960820	JP 1995-16024	19950202
PRAI	JP 1995-16024		19950202		
AB	The claimed photog. films has antistatic layer comprising a conjugated $\pi$ -electron system-containing conductive polymer, an aqueous copolyester, a crosslinker, and if necessary a specific preservative. The antistatic coating composition has excellent antistatic property, coating characteristics, and storage stability.				
ST	antistatic coating photog film				
IT	Photographic films (antistatic coating containing $\pi$ -conjugation system conductive polymers)				
IT	Polyesters, preparation RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses) (antistatic coating containing $\pi$ -conjugation system conductive polymers and co-polyesters)				
IT	Antistatic agents (coatings, conductive polymers for photog. films)				
IT	<b>30307-45-0P</b> , Dimethyl isophthalate-dimethyl 5-sodiosulfoisophthalate-dimethyl terephthalate-ethylene glycol copolymer <b>183313-21-5P</b> , Ethylene glycol-isophthalic acid-terephthalic acid-di(2-hydroxyethyl) 5-sodiosulfoisophthalate copolymer <b>183313-22-6P</b> RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses) (antistatic coating containing $\pi$ -conjugated polymer and polyester for photog. films)				
IT	25067-54-3P, Polyfuran 25190-54-9P, Poly(2,5-dimethoxy-p-phenylenevinylene) 25233-30-1P, <b>Polyaniline</b> 25233-34-5P, Polythiophene 26009-24-5P, Poly(p-phenylenevinylene) 26498-02-2P, Poly(2,5-thiophenediyl-1,2-ethenediyl) 27073-41-2P 27082-18-4P, Poly(N-methylaniline) 30604-81-0P, Polypyrrole 89298-12-4P 91201-85-3P 94750-56-8P, Poly(3,5-dimethylaniline) 95831-23-5P, Poly(3-ethylpyrrole) 95831-25-7P 97126-62-0P, Poly[N-(2-hydroxyethyl)aniline] 99742-70-8P, Poly(2-methoxyaniline) 104934-53-4P, Poly(3-dodecylthiophene) 105935-08-8P, Poly(3,4-dimethoxypyrrole) 110847-38-6P 113285-82-8P 114815-74-6P 117312-30-8P 118337-98-7P 121536-25-2P 122721-92-0P 132670-08-7P 133184-17-5P 137539-66-3P 162152-30-9P 162369-94-0P 162369-98-4P				

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

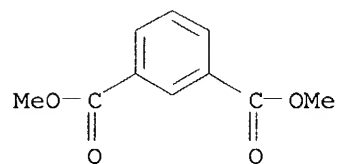
162370-00-5P 165455-34-5P 181226-79-9P 181226-82-4P 182956-11-2P  
 182956-19-0P 183313-06-6P 183313-09-9P 183313-11-3P 183313-14-6P  
 183313-16-8P 183313-18-0P 183313-20-4P  
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP  
 (Preparation); USES (Uses)  
 (antistatic coating containing  $\pi$ -conjugated polymer for photog. films)  
 IT 133150-73-9P  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (antistatic coating containing  $\pi$ -conjugated polymer for photog. films)  
 IT 959-52-4 2736-18-7, 2,4-Dichloro-6-hydroxy-1,3,5-triazine sodium salt  
 3278-22-6, Di(vinylsulfonyl)methane 4156-16-5 6160-65-2 13236-02-7  
 13829-06-6 26750-50-5, Bis(vinylsulfonylmethyl) ether 27043-36-3  
 39690-70-5 57116-45-7 60345-53-1 63834-51-5 65411-60-1  
 66710-66-5, 1,2-Bis(vinylsulfonylacetamido)ethane 67006-32-0  
 70443-73-1 99944-60-2 101385-69-7 107020-62-2 112183-79-6  
 115653-16-2 115685-19-3 138503-23-8 160237-75-2 183313-24-8  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES  
 (Uses)  
 (crosslinker for antistatic coatings on photog. films)  
 IT 52-51-7 1003-07-2, 3(2H)-Isothiazolone 2634-34-6 2682-20-4  
 19983-35-8 26172-55-4 26530-20-1 26542-23-4 33344-74-0  
 53607-26-4 57063-29-3 142383-74-2 182892-13-3 182892-15-5  
 183313-25-9 183313-26-0 183313-27-1 183313-28-2 183313-29-3  
 183313-31-7 183313-32-8  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES  
 (Uses)  
 (preservatives for antistatic coating on photog. films)  
 IT **30307-45-0P**, Dimethyl isophthalate-dimethyl 5-  
 sodiosulfoisophthalate-dimethyl terephthalate-ethylene glycol copolymer  
**183313-21-5P**, Ethylene glycol-isophthalic acid-terephthalic  
 acid-di(2-hydroxyethyl) 5-sodiosulfoisophthalate copolymer  
**183313-22-6P**  
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP  
 (Preparation); USES (Uses)  
 (antistatic coating containing  $\pi$ -conjugated polymer and polyester for  
 photog. films)  
 RN 30307-45-0 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt,  
 polymer with dimethyl 1,3-benzenedicarboxylate, dimethyl  
 1,4-benzenedicarboxylate and 1,2-ethanediol (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 3965-55-7  
 CMF C10 H10 O7 S . Na



● Na

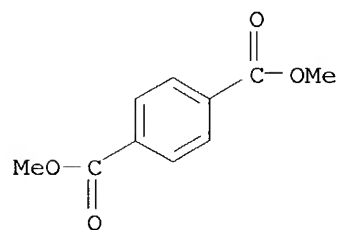
CM 2

CRN 1459-93-4  
CMF C10 H10 O4



CM 3

CRN 120-61-6  
CMF C10 H10 O4



CM 4

CRN 107-21-1  
CMF C2 H6 O2

$\text{HO}-\text{CH}_2-\text{CH}_2-\text{OH}$

RN 183313-21-5 HCAPLUS

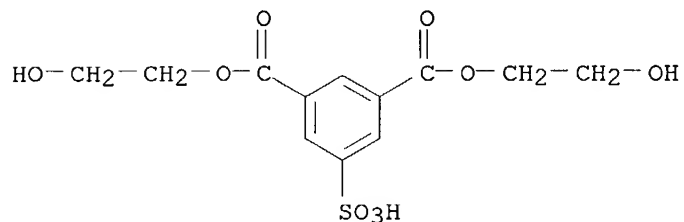
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis(2-hydroxyethyl) ester, monosodium salt, polymer with 1,3-benzenedicarboxylic acid, 1,4-benzenedicarboxylic acid and 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 24019-46-3

CMF C12 H14 O9 S . Na

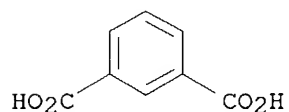


● Na

CM 2

CRN 121-91-5

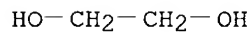
CMF C8 H6 O4



CM 3

CRN 107-21-1

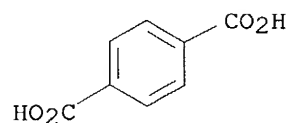
CMF C2 H6 O2



CM 4

CRN 100-21-0

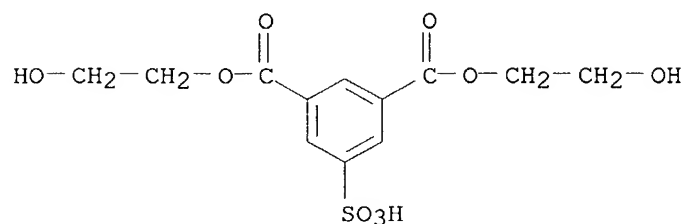
CMF C8 H6 O4



RN 183313-22-6 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis(2-hydroxyethyl) ester, monosodium salt, polymer with 1,3-benzenedicarboxylic acid, 1,4-benzenedicarboxylic acid, 1,2-ethanediol and hexanedioic acid (9CI)  
 (CA INDEX NAME)

CM 1

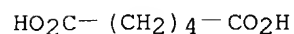
CRN 24019-46-3  
 CMF C12 H14 O9 S . Na



● Na

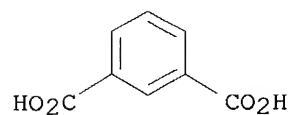
CM 2

CRN 124-04-9  
 CMF C6 H10 O4



CM 3

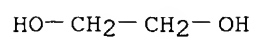
CRN 121-91-5  
 CMF C8 H6 O4



CM 4

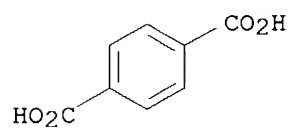
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CRN 107-21-1  
CMF C2 H6 O2



CM 5

CRN 100-21-0  
CMF C8 H6 O4



L48 ANSWER 25 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:468940 HCAPLUS  
 DN 125:129989  
 ED Entered STN: 08 Aug 1996  
 TI Water-based **polyaniline** compositions and their manufacture  
 IN Tani, Fumito; Yoshitani, Juji; Uno, Keiichi  
 PA Toyo Boseki, Japan; Toyobo Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08L067-02  
 ICS C08J003-03; C08J003-075; C08K003-24; C08L079-00; H01B001-12;  
 H01B005-14

CC 76-2 (Electric Phenomena)  
 Section cross-reference(s): 37, 38, 42

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08120167	A2	19960514	JP 1994-256944	19941021
	JP 3487370	B2	20040119		
PRAI	JP 1994-256944		19941021		

AB The title compns. comprise (A) **polyaniline** and/or their derivs., (B) proton acid dopants, (C) copolymer polyesters, and (D) H2O. The compns. may contain (E) water-soluble organic solvents and/or (F) surfactants. The title compns. may be manufactured by (1) dissolving or dispersing A and B to H2O and/or water-soluble solvents, (2) dissolving or dispersing C to H2O and/or water-soluble solvents, and (3) mixing the dispersions or the solvents. The compns. show elec. conductivity, charging property, transparency, and solvent resistance and are useful for films, coatings, etc.

ST **polyaniline** water based compn elec conductor; proton acid dopant **polyaniline** elec conductor; polyester **polyaniline** elec conductor

IT Electric conductors  
 (water-based **polyaniline** compns. containing proton acid dopants and polyesters and their manufacture)

IT Polyesters, uses  
 RL: PNU (Preparation, unclassified); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (water-based **polyaniline** compns. containing proton acid dopants and polyesters and their manufacture)

IT 1639-66-3 13150-00-0 13177-49-6 14857-90-0 28754-11-2  
**178374-58-8** 178374-59-9  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (dopant; water-based **polyaniline** compns. containing proton acid dopants and polyesters and their manufacture)

IT 25233-30-1P, **Polyaniline**  
 RL: PNU (Preparation, unclassified); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (water-based **polyaniline** compns. containing proton acid dopant and polyesters and their manufacture)

IT **179118-31-1P 179118-32-2P**  
 RL: PNU (Preparation, unclassified); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (water-based **polyaniline** compns. containing proton acid dopants and polyesters and their manufacture)

IT **178374-58-8**

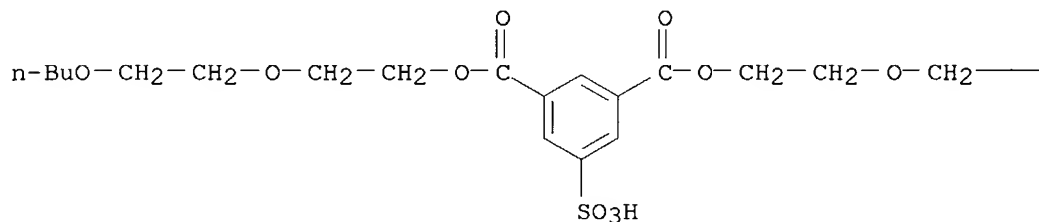


RL: MOA (Modifier or additive use); USES (Uses)  
(dopant; water-based **polyaniline** compns. containing proton acid  
dopants and polyesters and their manufacture)

RN 178374-58-8 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl]  
ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

---CH<sub>2</sub>-OBu-n

IT 179118-31-1P 179118-32-2P

RL: PNU (Preparation, unclassified); POF (Polymer in formulation); TEM  
(Technical or engineered material use); PREP (Preparation); USES (Uses)  
(water-based **polyaniline** compns. containing proton acid dopants  
and polyesters and their manufacture)

RN 179118-31-1 HCAPLUS

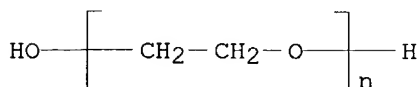
CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis(2-hydroxyethyl) ester,  
monosodium salt, polymer with bis(2-hydroxyethyl) 1,3-  
benzenedicarboxylate, bis(2-hydroxyethyl) 1,4-benzenedicarboxylate and  
α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX  
NAME)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

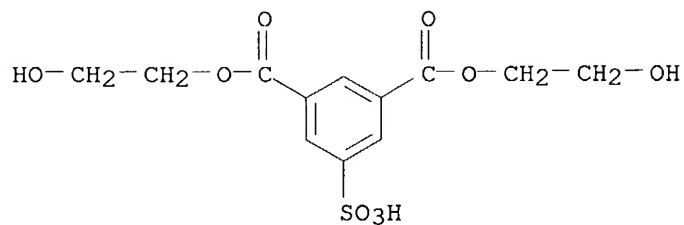
CCI PMS



CM 2

CRN 24019-46-3

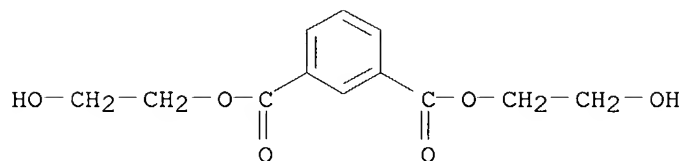
CMF C12 H14 O9 S . Na



● Na

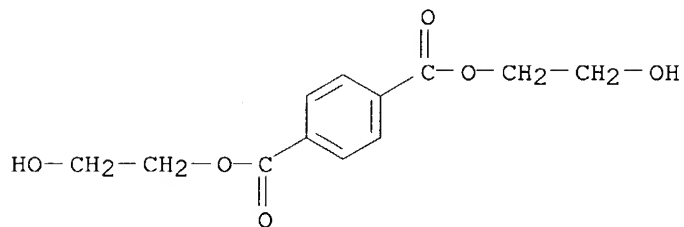
CM 3

CRN 3644-99-3  
CMF C12 H14 O6



CM 4

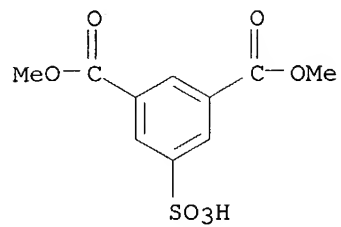
CRN 959-26-2  
CMF C12 H14 O6



RN 179118-32-2 HCAPLUS  
CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt, polymer with dimethyl 1,3-benzenedicarboxylate, dimethyl 1,4-benzenedicarboxylate and 2,2-dimethyl-1,3-propanediol (9CI) (CA INDEX NAME)

CM 1

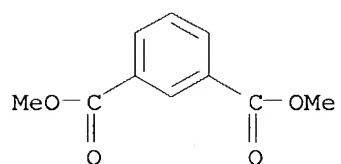
CRN 3965-55-7  
CMF C10 H10 O7 S . Na



● Na

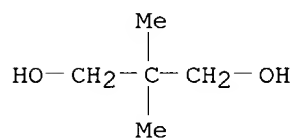
CM 2

CRN 1459-93-4  
CMF C10 H10 O4



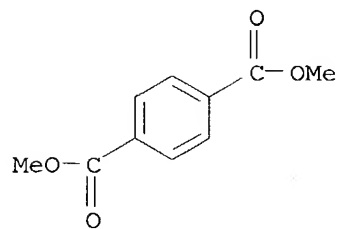
CM 3

CRN 126-30-7  
CMF C5 H12 O2



CM 4

CRN 120-61-6  
CMF C10 H10 O4



L48 ANSWER 26 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:428489 HCAPLUS  
 DN 125:61117  
 ED Entered STN: 20 Jul 1996  
 TI Antistatic agents containing electrically conductive organic polymers  
 IN Tani, Fumito; Yoshitani, Juji; Uno, Keiichi  
 PA Toyo Boseki, Japan  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08G073-00  
 ICS H01B001-12; H05F001-00  
 CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 40, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08100060	A2	19960416	JP 1994-232952	19940928
PRAI	JP 1994-232952		19940928		
OS	MARPAT 125:61117				
AB	The title agents, with elec. conductivity $>10^{-9}$ S/cm and in dope dispersion or solution, useful for coatings on metals, films (e.g., of PET), synthetic paper (e.g., of polyester fibers), fibers (e.g., of cotton, wool, polyesters, polyamides), etc., contain <b>polyaniline</b> and/or its derivs. and protonic acid dopants with (mol. weight of dopant)/N = 350-2000 (N = number of protonic group when pKa $<4.0$ ) (e.g., reaction products of di-Me 5-sulfosodiumisophthalate and diethylene glycol monobutyl ether).				
ST	antistatic agent elec conductive <b>polyaniline</b> ; dimethyl sulfosodiumisophthalate adduct antistatic coating; diethylene glycol monobutyl ether adduct coating				
IT	Antistatic agents Cotton Wool (antistatic agents containing elec. conductive organic polymers)				
IT	Polyamide fibers, uses Polyester fibers, uses RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses) (antistatic agents containing elec. conductive organic polymers)				
IT	Coating materials (antistatic, antistatic agents containing elec. conductive organic polymers)				
IT	Paper (antistatic, of polyester fiber-based; antistatic agents containing elec. conductive organic polymers)				
IT	1639-66-3	13150-00-0	13177-49-6	14857-90-0	17766-32-4
	<b>178374-58-8</b>	178374-59-9	178374-60-2		
	RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (antistatic agents containing elec. conductive organic polymers)				
IT	25233-30-1, <b>Polyaniline</b> RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (antistatic agents containing elec. conductive organic polymers)				
IT	112-34-5, Diethylene glycol monobutyl ether <b>3965-55-7</b> RL: RCT (Reactant); RACT (Reactant or reagent) (antistatic agents containing elec. conductive organic polymers)				
IT	<b>178374-58-8</b> RL: MOA (Modifier or additive use); TEM (Technical or engineered material				

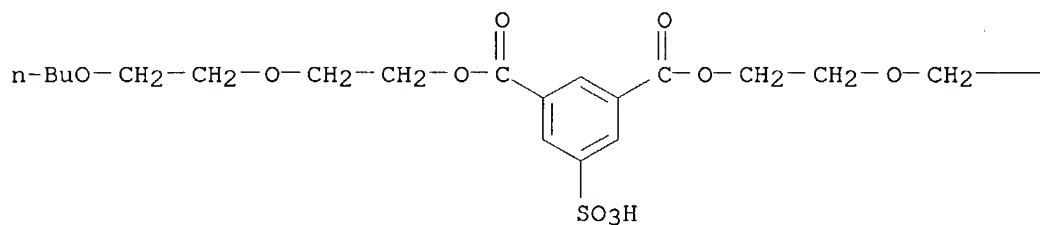
use); USES (Uses)

(antistatic agents containing elec. conductive organic polymers)

RN 178374-58-8 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—CH<sub>2</sub>—OBu-n

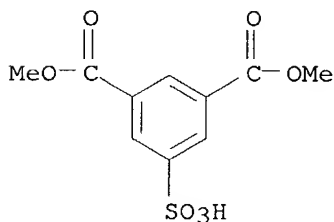
IT 3965-55-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(antistatic agents containing elec. conductive organic polymers)

RN 3965-55-7 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt (9CI) (CA INDEX NAME)



● Na

L48 ANSWER 27 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:404643 HCAPLUS  
 DN 125:61104  
 ED Entered STN: 13 Jul 1996  
 TI Anticorrosive coating materials containing electrically conductive organic polymers  
 IN Tani, Fumito; Yoshitani, Juji; Uno, Keiichi  
 PA Toyo Boseki, Japan; Toyobo Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08L079-00  
 ICS B05D005-00; B05D005-12; B05D007-14; C08G073-00; H01B001-12  
 CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08092479	A2	19960409	JP 1994-229488	19940926
	JP 3506191	B2	20040315		
PRAI	JP 1994-229488		19940926		

OS MARPAT 125:61104

AB The title compns., with elec. conductivity >10<sup>-9</sup> S/cm and in dope dispersion or solution, contain **polyaniline** and/or its derivs. and protonic acid dopants with (mol. weight of dopant)/N = 350-2000 (N = number of protonic group when pKa <4.0) (e.g., reaction products of di-Me 5-sulfosodiumisophthalate and diethylene glycol monobutyl ether).

ST anticorrosive coating elec conductive **polyaniline**; dimethyl sulfosodiumisophthalate adduct anticorrosive coating; diethylene glycol monobutyl ether adduct coating

IT Electric conductors, polymeric  
 (anticorrosive coating materials containing elec. conductive organic polymers)

IT Alkyd resins

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(anticorrosive coating materials containing elec. conductive organic polymers)

IT Coating materials

(anticorrosive, anticorrosive coating materials containing elec. conductive organic polymers)

IT 1639-66-3 13150-00-0 13177-49-6 14857-90-0 17766-32-4

**178374-58-8** 178374-59-9 178374-60-2

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(anticorrosive coating materials containing elec. conductive organic polymers)

IT 25233-30-1, **Polyaniline** 75139-65-0, Vylon 82200-41-7, Vylonal MD 1200

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(anticorrosive coating materials containing elec. conductive organic polymers)

IT 112-34-5, Diethylene glycol monobutyl ether **3965-55-7**

RL: RCT (Reactant); RACT (Reactant or reagent)

(anticorrosive coating materials containing elec. conductive organic polymers)

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

IT **178374-58-8**

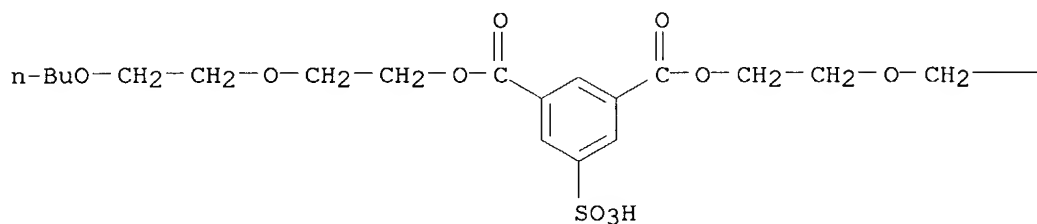
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(anticorrosive coating materials containing elec. conductive organic polymers)

RN 178374-58-8 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—CH<sub>2</sub>—OBu-n

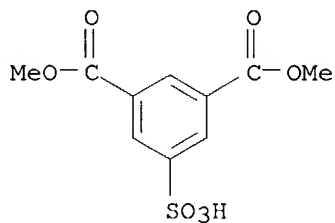
IT **3965-55-7**

RL: RCT (Reactant); RACT (Reactant or reagent)

(anticorrosive coating materials containing elec. conductive organic polymers)

RN 3965-55-7 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt (9CI) (CA INDEX NAME)



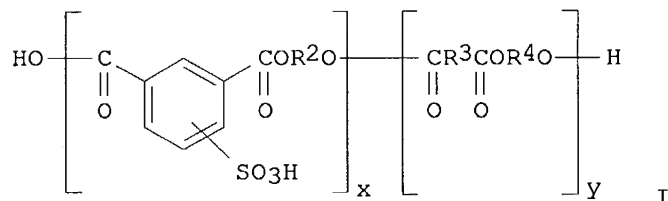
● Na



L48 ANSWER 28 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:262360 HCAPLUS  
 DN 124:329942  
 ED Entered STN: 04 May 1996  
 TI **Polyaniline** composition, electrically conducting thin film using  
 it, and its manufacture  
 IN Tani, Fumito; Yoshitani, Juji; Uno, Keiichi  
 PA Toyo Boseki, Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08L079-00  
 ICS C08G073-00; C08J005-18; C08K005-42; C08L067-02; H01B001-12;  
 H01B005-14  
 ICA C08G063-688  
 CC 76-2 (Electric Phenomena)  
 Section cross-reference(s): 38  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08041322	A2	19960213	JP 1994-181209	19940802
PRAI	JP 1994-181209		19940802		

GI



AB The elec. conducting thin film is manufactured by applying a composition containing  
**polyaniline** and/or its derivative with weight average mol. weight <10,000 and  
 ≥1 dopant selected from HO3SC6H4R1m (R1 = H, alkyl, alkoxy,  
 alkoxyacetyl, polyoxyalkylenecarbonyl, alkenyl, alkylthioalkyl, aryl,  
 alkylaryl, arylalkyl, alkoxyalkyl, alkylthio, alkylsulfinyl,  
 alkylsulfonyl, CO2H, nitrile, OH, NO2, halo; m = 2-5) and/or I (R2-4 =  
 alkylene, phenylene; x, y = 1-50) on a substrate and drying. The composition  
 showed good solubility for organic solvents and gave a film with good adhesion  
 to  
 a poly(ethylene terephthalate) substrate.  
 ST **polyaniline** doped elec conductor film; benzenesulfonic acid  
 dopant **polyaniline** conductor  
 IT Electric conductors, polymeric  
 (benzenesulfonic acid derivative-doped **polyaniline** elec.  
 conducting film and its manufacture)  
 IT Polymerization  
 (oxidative, benzenesulfonic acid derivative-doped **polyaniline**  
 elec. conducting film and its manufacture)  
 IT **176236-29-6DP**, hydrolyzed 176236-31-0P  
 RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP  
 (Preparation); USES (Uses)

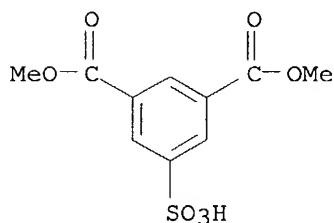
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

- (benzenesulfonic acid derivative-doped **polyaniline** elec. conducting film and its manufacture)
- IT **176236-30-9P**  
 RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (benzenesulfonic acid derivative-doped **polyaniline** elec. conducting film and its manufacture)
- IT 25233-30-1P, **Polyaniline**  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (benzenesulfonic acid derivative-doped **polyaniline** elec. conducting film and its manufacture)
- IT 112-34-5, Diethylene glycol monobutyl ether **3965-55-7**, Dimethyl 5-sodiosulfoisophthalate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (benzenesulfonic acid derivative-doped **polyaniline** elec. conducting film and its manufacture)
- IT **176236-29-6DP**, hydrolyzed  
 RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)  
 (benzenesulfonic acid derivative-doped **polyaniline** elec. conducting film and its manufacture)
- RN 176236-29-6 HCAPLUS
- CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt, polymer with dimethyl 1,3-benzenedicarboxylate and 2,2-dimethyl-1,3-propanediol (9CI) (CA INDEX NAME)

CM 1

CRN 3965-55-7

CMF C10 H10 O7 S . Na

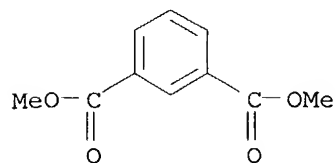


● Na

CM 2

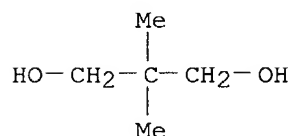
CRN 1459-93-4

CMF C10 H10 O4



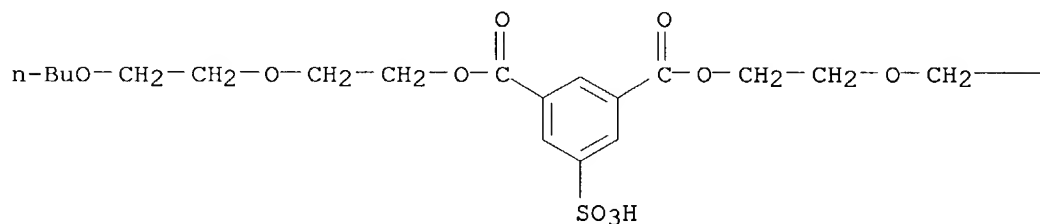
CM 3

CRN 126-30-7  
CMF C5 H12 O2



IT **176236-30-9P**  
 RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (benzenesulfonic acid derivative-doped **polyaniline** elec. conducting film and its manufacture)  
 RN 176236-30-9 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl] ester, sodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● Na

PAGE 1-B

—CH<sub>2</sub>—OBu-n

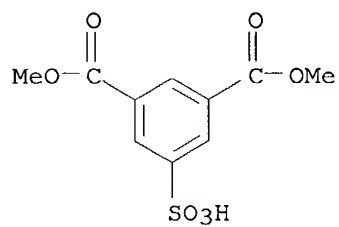
IT **3965-55-7**, Dimethyl 5-sodiosulfoisophthalate

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

RL: RCT (Reactant); RACT (Reactant or reagent)  
(benzenesulfonic acid derivative-doped **polyaniline** elec.  
conducting film and its manufacture)

RN 3965-55-7 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt  
(9CI) (CA INDEX NAME)

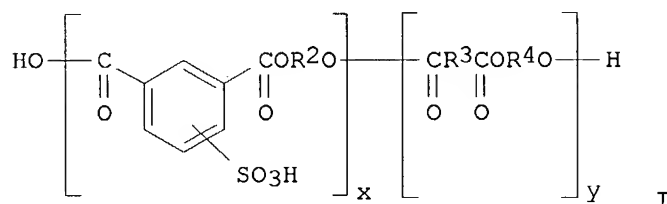


● Na

L48 ANSWER 29 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:262359 HCAPLUS  
 DN 124:329941  
 ED Entered STN: 04 May 1996  
 TI **Polyaniline** composition, electrically conducting thin film using  
 it, and its manufacture  
 IN Tani, Fumito; Yoshitani, Juji; Uno, Keiichi  
 PA Toyo Boseki, Japan; Toyobo Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08L079-00  
 ICS C08G073-00; C08J005-18; C08K005-42; C08L067-02; H01B001-12;  
 H01B005-14  
 ICA C08G063-688  
 CC 76-2 (Electric Phenomena)  
 Section cross-reference(s): 38  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08041321	A2	19960213	JP 1994-180016	19940801
	JP 3509205	B2	20040322		
PRAI	JP 1994-180016		19940801		

GI



AB The elec. conducting thin film is manufactured by applying a composition containing  
**polyaniline** and/or its derivative and  $\geq 1$  dopant selected from  
 HO3SC6H4R<sub>1</sub>m (R<sub>1</sub> = H, alkyl, alkoxy, alkoxy carbonyl,  
 polyoxyalkylenecarbonyl, alkenyl, alkylthioalkyl, aryl, alkylaryl,  
 arylalkyl, alkoxyalkyl, alkylthio, alkylsulfinyl, alkylsulfonyl, CO<sub>2</sub>H,  
 nitrile, OH, NO<sub>2</sub>, halo; m = 2-5) and/or I (R<sub>2-4</sub> = alkylene, phenylene; x,  
 y = 1-50) on a substrate and drying. The composition showed good solubility  
 for  
 organic solvents and gave a film with good adhesion to a poly(ethylene  
 terephthalate) substrate.  
 ST **polyaniline** doped elec conductor film; benzenesulfonic acid  
 dopant **polyaniline** conductor  
 IT Electric conductors, polymeric  
 (benzenesulfonic acid derivative-doped **polyaniline** elec.  
 conducting film and its manufacture)  
 IT Polymerization  
 (oxidative, benzenesulfonic acid derivative-doped **polyaniline**  
 elec. conducting film and its manufacture)  
 IT **176236-29-6DP**, hydrolyzed 176236-31-0P  
 RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP

(Preparation); USES (Uses)  
(benzenesulfonic acid derivative-doped **polyaniline** elec.  
conducting film and its manufacture)

IT 176236-30-9P

RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); RCT  
(Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(benzenesulfonic acid derivative-doped **polyaniline** elec.  
conducting film and its manufacture)

IT 25233-30-1P, **Polyaniline**

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(benzenesulfonic acid derivative-doped **polyaniline** elec.  
conducting film and its manufacture)

IT 112-34-5, Diethylene glycol monobutyl ether 3965-55-7, Dimethyl  
5-sodiosulfoisophthalate

RL: RCT (Reactant); RACT (Reactant or reagent)  
(benzenesulfonic acid derivative-doped **polyaniline** elec.  
conducting film and its manufacture)

IT 176236-29-6DP, hydrolyzed

RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP  
(Preparation); USES (Uses)  
(benzenesulfonic acid derivative-doped **polyaniline** elec.  
conducting film and its manufacture)

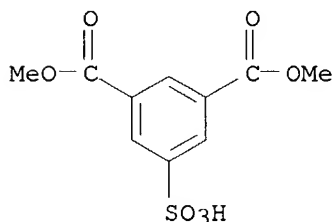
RN 176236-29-6 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt,  
polymer with dimethyl 1,3-benzenedicarboxylate and 2,2-dimethyl-1,3-  
propanediol (9CI) (CA INDEX NAME)

CM 1

CRN 3965-55-7

CMF C10 H10 O7 S . Na

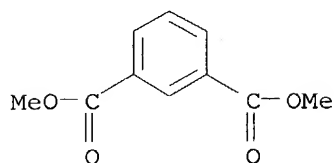


● Na

CM 2

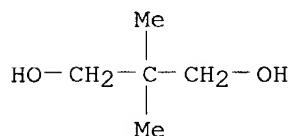
CRN 1459-93-4

CMF C10 H10 O4



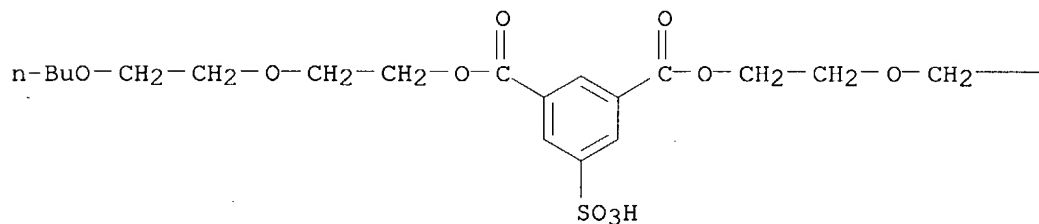
CM 3

CRN 126-30-7  
CMF C5 H12 O2



IT **176236-30-9P**  
 RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (benzenesulfonic acid derivative-doped **polyaniline** elec. conducting film and its manufacture)  
 RN 176236-30-9 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-bis[2-(2-butoxyethoxy)ethyl] ester, sodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—CH<sub>2</sub>—OBu-n

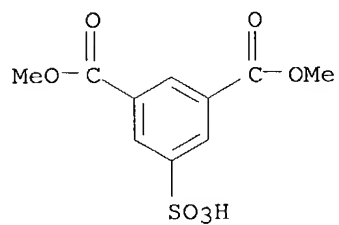
IT **3965-55-7**, Dimethyl 5-sodiosulfoisophthalate

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

RL: RCT (Reactant); RACT (Reactant or reagent)  
(benzenesulfonic acid derivative-doped **polyaniline** elec.  
conducting film and its manufacture)

RN 3965-55-7 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt  
(9CI) (CA INDEX NAME)



● Na



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